THE RELATIONSHIP BETWEEN SELECTED FACTORS AND EXPECTANT FATHER'S GRIEF RESPONSE TO PERINATAL LOSS

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ABSTRACT

The descriptive correlational research is designed to examine the relationship and predictability between selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal – fetal attachment, and coping strategies and expectant father's grief response to perinatal loss. The Roy Adaptation Model was used to guide this research. The subjects were 100 expectant fathers whose wives had perinatal loss and admitted at high-risk ward, Ramathibodi Hospital, Bangkok, Thailand during August to December 2004. Five parts instrument included that demographic data, Perinatal Grief Scale, Dyadic Adjustment Scale, Paternal-Fetal Attachment Scale, and Jalowiec Coping Scale. Alpha Cronbach' s coefficiency reliability in 100 samples of Perinatal Grief Scale, Dyadic Adjustment Scale, Paternal-Fetal Attachment Scale, and Jalowiec Coping Scale were .93, .93, .92, and .75 respectively. The data were analyzed by pearson's product of moment coefficient and stepwise multiple regression.

The study revealed that the subject had moderate expectant father's grief response. The remainder were rather good; marital relationship; paternal – fetal attachment; and coping strategies. Paternal-fetal attachment was significantly low positive correlation with expectant father's grief response to perinatal loss ($r = .287$, $p < .01$), and expectant father age ($r = -.233$, $p < .05$) were statistical significantly low negative correlation with expectant father's grief response to perinatal loss. Paternal – fetal attachment and expectant father age could explained 12.3% variance of expectant father's grief response to perinatal loss.

The results of this study clearly suggest that perinatal loss can, indeed, lead to expectant father's grief. Thus, health care and nurse should be aware of factors influencing grief response that paternal – fetal attachment, and younger father age.

KEY WORDS: EXPECTANT FATHER / GRIEF RESPONSE / MARITAL RELATIONSHIP / PATERNAL – FETAL ATTACHMENT / PERINATAL LOSS

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ความสัมพันธ์ระหว่างปัจจัยคัดสรรกับความเศร้าโศกของสามีที่ภรรยาสูญเสียทารกในครรภ์ (THE RELATIONSHIP BETWEEN SELECTED FACTORS AND EXPECTANT FATHER'S GRIEF RESPONSE TO PERINATAL LOSS)

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บทคัดย่อ

การวิจัยครั้งนี้เป็นการวิจัยเชิงบรรยาย เพื่อศึกษาความสัมพันธ์และอำนาจในการร่วมกันทำนายของปัจจัยคัดสรรได้แก่ อายุ อายุครรภ์ขณะที่สูญเสียทารกในครรภ์ สัมพันธภาพระหว่างคู่สมรส ความผูกพันระหว่างบิดากับทารกในครรภ์ และวิธีการเผชิญปัญหา กับความเศร้าโศกของสามีที่ภรรยาสูญเสียทารกในครรภ์ กลุ่มตัวอย่างจำนวน 100 คนเป็นสามีที่ภรรยาสูญเสียทารกในครรภ์ที่เข้าพักรักษาตัวที่หอผู้ป่วยสูติกรรม 3 คณะแพทยศาสตร์โรงพยาบาลรามาธิบดี ตั้งแต่เดือนสิงหาคม ถึงเดือนธันวาคม 2547 แบบสอบถามที่ใช้มีทั้งหมด 5 ตอน ประกอบด้วย แบบสอบถามข้อมูลส่วนบุคคล แบบวัดความเศร้าโศกของสามีที่ภรรยาต้องสูญเสียทารกในครรภ์ แบบสอบถามสัมพันธภาพระหว่างคู่สมรส แบบสอบถามความผูกพันระหว่างบิดากับทารกในครรภ์ และแบบประเมินวิธีการเผชิญปัญหา และค่าสัมประสิทธิ์แอลฟาของครอนบาคของแบบวัดความเศร้าโศกของสามีที่ภรรยาต้องสูญเสียทารกในครรภ์ แบบสอบถามสัมพันธภาพระหว่างคู่สมรส แบบสอบถามความผูกพันระหว่างบิดากับทารกในครรภ์ และแบบประเมินวิธีการเผชิญปัญหา มีค่าเท่ากับ .93, .93, .92, and .75 ตามลำดับ วิเคราะห์ข้อมูลโดยใช้สถิติสัมประสิทธิ์สหสัมพันธ์ของเพียร์สันและสถิติสหสัมพันธ์พหุคูแบบขั้นตอน

ผลการวิจัยพบว่ากลุ่มตัวอย่างมีความเศร้าโศกระดับปานกลาง มีสัมพันธภาพระหว่างคู่สมรสค่อนข้างดี มีความผูกพันระหว่างบิดากับทารกในครรภ์ค่อนข้างมาก และมีวิธีการเผชิญปัญหาโดยใช้วิธีการเผชิญหน้ากับปัญหามากที่สุด ความผูกพันระหว่างบิดากับทารกในครรภ์มีความสัมพันธ์ทางบวกค่อนข้างต่ำกับความเศร้าโศกของสามีที่ภรรยาต้องสูญเสียทารกในครรภ์ ($r = .287$, $p < .01$) ส่วนอายุมีความสัมพันธ์ทางลบค่อนข้างต่ำกับความเศร้าโศกของสามีที่ภรรยาต้องสูญเสียทารกในครรภ์ ($r = -.233$, $p < .05$) และความผูกพันระหว่างบิดากับทารกในครรภ์กับอายุสามารถร่วมทำนายความเศร้าโศกของสามีที่ภรรยาต้องสูญเสียทารกในครรภ์ได้ร้อยละ 12.3 อย่างมีนัยสำคัญทางสถิติที่ระดับ .01

จากผลการศึกษาแสดงให้เห็นว่าการสูญเสียทารกในครรภ์ก่อให้เกิดความเศร้าโศกแก่บิดา ผู้วิจัยเสนอแนะว่าผู้ให้บริการด้านสุขภาพและพยาบาลควรตระหนักและประเมินปัจจัยที่มีผลต่อความเศร้าโศก โดยเฉพาะบิดาที่มีความผูกพันระหว่างบิดากับทารกในครรภ์มากและในรายที่มีอายุน้อยให้สามารถเผชิญความเศร้าโศกให้เหมาะสม

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CHAPTER I
INTRODUCTION

Background and Significance of the Study

Becoming pregnant and giving birth are important developmental milestones that are anticipated by most men and women (Lowdermilk, Perry & Bobak, 2000: 1134). But sometimes the pregnancy unfortunately ends in perinatal loss. Each year, there are more than 30,000 neonatal deaths, and approximately 30,000 dead fetus in utero/stillbirths; at least 20% of all pregnancies result in miscarriages during the first 20 weeks of gestation (Wood & Esposito, 1987 cited by Gillbert & Harmon, 1993: 113; Cunningham, MacDonald & Gant, 1997; Armstrong & Hutti, 1998 cited by DiMarco, Menke & McNamara, 2001: 135; Hoyert, Smith, Arias & Murphy, 2001 cited by Wallerstedt, Lilley & Baldwin, 2003: 533). In Thailand, the abortions while childbearing numbered about 1,711,500 cases, or 8.6%, in 1996 (Thai New, 2001). Ministry of Public Health statistics estimated the rates of perinatal loss from 1997 to 2001 were 1.3-2.8 per 1,000 livebirth and maternal death rates from abortion by pregnancy is 2.0-2.2 per 100,000 live births (Public Health Statistics, 2001: 48-56). At the antenatal clinic in Ramathibodi Hospital, from B.E. 2543 to 2547the rates of abortion under 28 weeks' gestation ranged from 4.9-8.7 % (Statistical Annual Report of Ramathibodi Hospital, B. E. 2543-2547).

Perinatal losses are significant crises for grieving families (Hutti, 1998: 338). In addition, perinatal loss is especially difficult because it is a double crisis. It represents the situational crisis of death in which an expected new life does not occur, plus the maturational crisis in which a couple experience failure in becoming parents (Quirk, 1979: 13; Hardin & Urbanus, 1986: 24; Brown, 1992: 82; Neugebauer, et al., 1992: 1332; Pool & Simpson, 1993: 113). Pregnancy is a maturational crisis, a time of loss of previous roles and transition into new roles. During the pregnancy it is a time of planning for the future, and dreams, which may have had their basis in childhood, are about to be realized. Thus, the loss of roles becomes overshadowed by the hopes

for this new life and new family dynamic. At any point when experience does not meet expectations, there is a sense of loss, change, and transition to parenthood (Lowdermilk, Perry & Bobak, 2000: 1134; Littleton & Engebreston, 2002: 1241). The loss of pregnancy and the unborn child through miscarriage, stillbirth, or neonatal death involves many losses. It is a life crisis and can cause serious grief from loss. It is failure that cannot be compared with any other event (Brown, 1992: 82; Neugebauer, et al., 1992: 1332; Pool & Simpson, 1993: 113). The loss of a pregnancy or death of an infant is an acute and distressing experience for mothers and fathers who planned for and expected a normal healthy infant as the outcome. The loss encompasses a loss of their identity as a mother or father and the loss of their many dreams related to parenthood (Lowdermilk, Perry & Bobak, 2000: 1135). Unique components of perinatal loss, such as loss of a dream, parent attachment, sense of biological failure, loss of self, isolation, lack of memories or minimization of loss, and incongruent grieving, affect the perinatal grieving process (Wallerstedt & Higgins, 1996 cited in Wallerstedt, Lilley & Baldwin, 2003: 533). Furthermore, perinatal loss is sudden and unexpected in nature, which leaves the expectant father unprepared, both in life experience and knowledge about responses to grief.

Grief is a process by which individuals cope with loss. Grief is a complex phenomenon that can affect a person's lifestyle, and functional, physical and psychological health. At first receipt of the news of their loss, they feel stunned and numb, and express denial or rejection of the fact. Next, anger may occur and be projected upon oneself, health professionals or family members because they cannot prevent the loss or help. In the bargaining stage, the mourner attempts to beg for more time to accept the reality of what happened. Following the depression stage, the mourner accepts the loss and mourns. Finally, the individual can accept and adapt to the loss. It is considered a compensatory process of adaptation, not a pathological one, which can bring healing and higher levels of personal integrity and transformation (Roy & Andrew, 1999: 406-410), and in which the individual must progress toward resolution (Townsend, 2000: 432-433). Based on Roy's adaptation model, when a loss occurs, the cognator and regulator subsystems of the human coping processes are activated with the potential to reach a higher level of adaptation and transcendence

(Roy & Andrew, 1999: 406). Although this response occurs normally, it has many effects on the expectant father in physical, psycho-emotional, and social ways, such as through exhaustion, loss of appetite, sleeplessness, loss of concentration, guilt, helplessness, loss of self-esteem, sense of failure, preoccupation with the deceased, doubt about reproductive competence, withdrawal from normal activity, and isolation from spouse, family, or friends (Bobak & Jensen, 1992: 1216-1238; Brost & Kenney, 1992: 457-463; Watson, 1985: 269-289). In general, it takes about 6 months to 2 years to undergo the grief process and return to a normal status (Cowles & Rodgers, 1991: 115). Occasionally, the intensity of the grief reaction is exaggerated and the duration is prolonged, which reflects failure of the compensatory process of dealing with loss (Roy & Andrew, 1999: 407), which may result in maladaptive behavior or pathologic grief that may lead to long-term consequences (Townsend, 2000: 432-433), such as family and psychological problems, and subsequent pregnancy problems. According to previous studies, bonding to the unborn child often occurs more slowly for the father, so the degree of loss felt by the mother may be discordant with the grief felt by the father (Benfield, et al., 1978: 171-177; Peppers & Knapp, 1980: 155-159; Theut, et al., 1989: 635-639). This incongruent grieving may result in marital disharmony, separation and divorce (Brost & Kenney, 1992: 4557-463; White-Van Mourik, et al., 1992: 189-204).

Many researchers in western countries have attempted to study several aspects of perinatal loss (Brost & Kenney, 1992: 457-463; Brown, 1992: 82-91; Condon, 1986: 987-992; Furman, 1978: 214-218; Gino, 1997: 42-45; Hutti, 1992: 401-415; Hutti et al., 1998: 547-555; Janssen, et al., 1997: 56-61; Johnson & Puddifoot, 1996: 313-327; Lin & Lasker, 1996: 262-271; Lovell, 1982: 53-54). Many researchers found that mothers and fathers experience grief differently (Klaus & Kennell, 1982 cited by Wallerstedt & Higgins, 1996: 389; Thullen, 1977 cited by Middleton & Quirk in Buckley & Kulb, 1990: 22). A father will often take on the active protector-provider role and society's expectations that the father remain stoic and strong may affect his grief, because he responds in a manner he feels the culture demands (Kellner & Lake, 1990). Thus, the father may not grieve openly, and when he does express his emotions, he may be concerned about displaying hers. The father, often excluded from childbirth

preparations, might not have bonded with the child to the same extent as the mother. While mothers respond verbally and usually immediately, reviewing the experience of pregnancy, labor and delivery with clarity, fathers attempt to assist the mother to feel better without fully expressing their own grief, so that communication between the couple lacks depth and fullness in the sharing of grief (Klaus & Kennell, 1982). Fathers try to escape from sadness and grief when they must necessarily return to work (Stierman, 1987). Thus, their grieving span, although less intense, is prolonged and sometimes never fully resolved. This lack of intensity can create discord if the mother perceives him as less caring. Like the mother, he can feel anger or guilt, or he might withdraw. Some fathers grieve more intensely than mothers, particularly when they had been closer to the live-born infant, such as when the infant is transferred to a regional center for treatment, accompanied only by the father, while the mother recuperates at the community hospital. The husband and wife might grow closer by sharing and resolving their grief. On the other hand, the pace of their grieving process can differ, and the couple might need help in understanding this. In some cases, the stress is too great for the marriage to resolve (Andosek, 1990: 240).

Many researchers have studies factors related to the intensity of the reaction to grief. A person's ability to adjust to loss and its effects are mediated by a wide range of variables, and relies on many factors, such as self-esteem, perceived social support and some personal factors. Hardin and Urbanus (1986: 23) stated that the intensity of the reaction varies according to the trimester of pregnancy in which the perinatal loss occurs, the parent's emotional attachment to the fetus, and the initial desire to be pregnant. In addition, gestational age, pre-loss neurotic personality, pre-loss psychiatric symptoms and family composition showed the strongest relation to grief intensity following a pregnancy loss (Jenssen, et al., 1997: 56). Peppers and Knapp (1980 cited by Lasker & Toedter, 1991: 511) found no significant difference in the grief scores of women who suffered various types of pregnancy loss, yet Kirkley-Best (1981 cited by Lasker & Toedter, 1991: 511) concluded that gestational age was the most important predictor of grief. In addition, Kirkley-Best (1981 cited by Lasker & Toedter, 1991: 511) did find age to be a factor; older mothers had lower grief scores. However, she cautioned that this finding may have been related to the fact that these mothers had more children. Cullberg (1972 cited by Zeanah, 1989: 476) reported one

third of subjects had marital problems after the loss, while half of the women interviewed by Forrest, et al. (1982) reported that the loss of their baby had improved their relations with their husbands, and the other half stated that their relationships were unaffected by the bereavement. On the other hand, three of these 50 couples separated within 6 months of the death.

In Thailand, perinatal loss and pregnancy loss, which have been estimated as about one-third of pregnancies, have been almost entirely neglected as a subject of social science research; it's study has only emerged in recent years (Gahnyarak Nguycharroen, B.E. 2541; Jultanmas, 2002; Kala, 2001; Supha Phueagted, B.E. 2539; Tunlert, 2001). Thus, the study has provided insight into expectant fathers' experiences of pregnancy and contributed to understanding the changing nature of contemporary fatherhood in Thailand. Recognition of men's changing roles in pregnancy, and greater insight into their experiences should be of relevance to all those supporting the transition to parenthood, including midwives, obstetricians, ultrasonographers, and childbirth educators. The increased awareness should inform the antenatal support given to men and reinforce the importance of relevant antenatal preparation that effectively meets the needs of not only expectant mothers, but expectant fathers.

Theoretical Framework

The Roy adaptation model was used to guide the study (Roy & Andrew, 1999: 7-51). In the Roy Adaptation Model a human is seen as an adaptive system that functions with interdependent parts acting in unity for some purpose. The foundation of the Roy Adaptation Model is the goal of enhancing life processes through adaptation. When human systems interact with the changing environment, adaptive responses occur. As the environment changes, humans have the continued opportunity to grow, develop and transform the meaning of life for everyone. The model is linked to system theory related to input, control process, output and feedback:

Inputs for human have been termed stimuli by the Roy adaptation model. The environment is more specifically classified as focal, contextual and residual stimuli. The focal stimulus is the most immediate internal or external stimulus for the awareness of the human systems. Contextual stimuli are all the other stimuli present

in the situation that contribute to the effect of the focal stimulus. The residual stimuli are environmental factors within or without human systems, the effects of which are unclear in the current situation.

Control mechanisms are central to the functioning of human systems. The complex dynamics within the person as the coping processes are the regulator and cognator subsystems. Coping processes are defined as innate or acquired way of responding to the changing environment.

The output behavior shows how well the system is adapting in interaction with the environment. Behavior or human adaptation, called adaptation level, has three possible conditions--integrated, compensatory and compromised. Integrated describes the structures and functions of the life process working as a whole to meet human needs. The compensatory level is where the cognator and regulator subsystems have been activated by a challenge to the integrated processes. When both integrated and compensatory processes are inadequate, an adaptation problem can result. Such problems become part of the person, as having a compromised adaptation level. Behavior is defined in the broadest sense as internal or external actions and reactions under specified circumstances. Behavior as the output of human systems takes the most adaptive responses and ineffective responses. These responses act as feedback or further input to the system, as following people to decide whether to increase or decrease the effect to cope with the stimuli.

Adaptive responses promote the integrity of the human system in terms of the goals of adaptation: survival, growth, reproduction, mastery and personal and environmental transformation; but ineffective responses do not. At any point, adaptation level is a significant internal stimulus. All of the various aspects of “human as adaptive system” are interrelated and anything happening in one aspect will have an effect on the others. The person-environment interaction is constantly changing and likewise the significance of any one stimulus.

The behaviors that result from individuals’ control processes can be observed in four categories or adaptive modes. These are the physiologic-physical, self-concept group identity, role function and interdependence, defined as:

1. The physiologic-physical mode associated with the way the person responds as a physical being to stimuli from the environment. Behavior in this mode is a

manifestation of physiological activities of at a cell, tissues, organ, and systems comprising the human body. There are five basic needs—oxygenation; nutrition; elimination; activity and rest; and protection. This mode pertains to physiological integrity.

2. The self-concept group identity mode is defined as the composite of beliefs and feelings that a person holds about him or herself at a given time and is formed from internal perceptions of others' reaction for psychic and spiritual integrity. Components of the self-concept mode are the physical self, including body sensation and body image; and the personal self, comprised of self-consistency, self-ideal, and moral-ethical-spiritual self.

3. The role function mode focuses on the roles that the individual occupies in society. A role, as the functioning units of society, is defined as a set of expectations about how a person occupying one position behaves toward a person occupying another position. The basic need underlying the role function mode has been identified as social integrity. A classification of roles as primary, secondary, and tertiary has been adapted for use in the Roy Adaptation Model.

4. The interdependence mode focuses on interactions related to the giving and receiving of love, respect and value. The basic need of this mode is relational integrity, the feeling of security in nurturing relationships.

The four adaptation modes are depicted as four overlapping circles. Behavior in the physiological mode can have an effect on or act as a stimulus for one or all of the other modes. Behavior can be indicative of adaptation in more than one mode. The Roy adaptation model can depict the relationship of each stimulus, the four affective modes and adaptive outcomes, as shown in Figure 1.

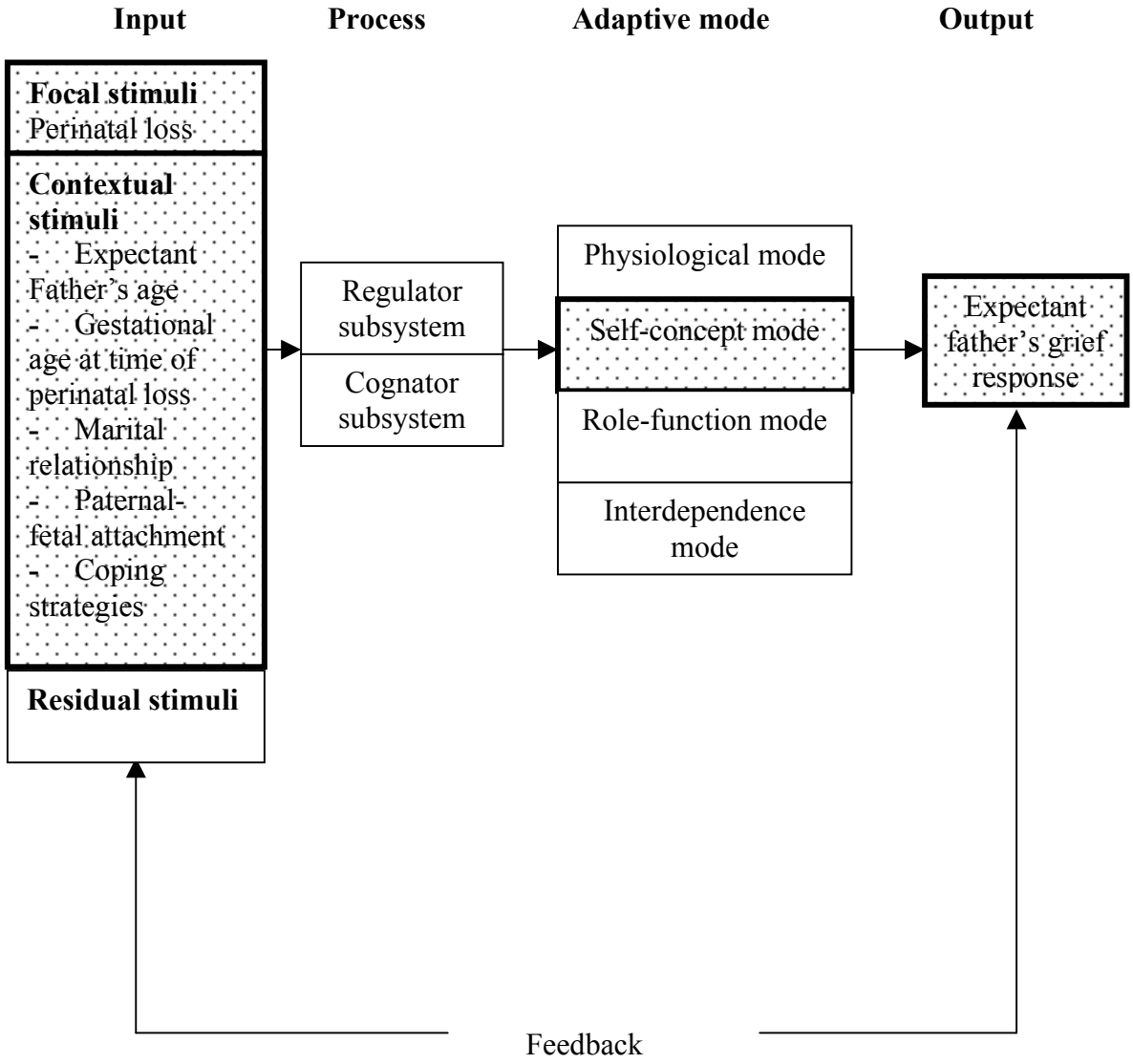

Figure 1. Theoretical framework for the research

For parents suffering perinatal loss, the focal stimulus is the perinatal loss because the fetus is dead. This focal stimulus brings about adaptation. Loss is considered an adaptation problem of physical self-component. The series of emotional responses that occur following the perception of or anticipation of a loss is grief. Grief is an accepted nursing diagnosis (Carpenito, 1985: Roy & Andrew, 1991: 296). In it broadest sense the diagnosis of grieving on applied to any situation in which loss is involved. Loss is often a part of other adaptation problems, for example, body image

disturbance and rape trauma syndrome. The nurse will decide if interventions for promoting grieving need to be applied prior to or in conjunction with other dealing with the primary adaptation problem. The influencing factors cross-modes and includes loss of physical function, loss of role function, loss of interpersonal relationship, or loss of sense of self.

Life is filled with losses and grieving is the natural response, it should not be viewed as pathological. It is, in fact, the process that brings healing and higher level of integrity when completed. The process of grieving can be viewed as consisting of four stages: (1) shock and disbelief, (2) apprehending the loss, (3) attempting to deal with the loss, and (4) final restitution and resolution.

Stimuli for the behaviors of grieving related to physical self include the physical changes of normal growth, including pregnancy and aging, accidents or illnesses affecting body appearance and function. Past experiences with loss, level of success of grieving past losses and stress level also serve as stimuli. The six common stimuli for self-concept influence grieving behaviors. The nurse identifies the focal stimulus by her sensitivity to the meaning of the situation in interviewing the person and validating hunches gathered from theory and observation.

While perinatal loss has occurred or will occur afterwards, the grief response of any expectant father will be high or low depending on mediating factors or contextual stimuli in the Roy Adaptation Model. These contextual stimuli consist of expectant father’s age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies. These factors have not studied yet in Thailand of expectant father’s grief response. Thus, the researcher aimed to study the relationship and predictability of expectant father’s age, gestational age at time of loss, marital relationship, paternal-fetal attachment, coping strategies, and expectant father’s grief response. The relationships of these variables are illustrated in Figure 2.

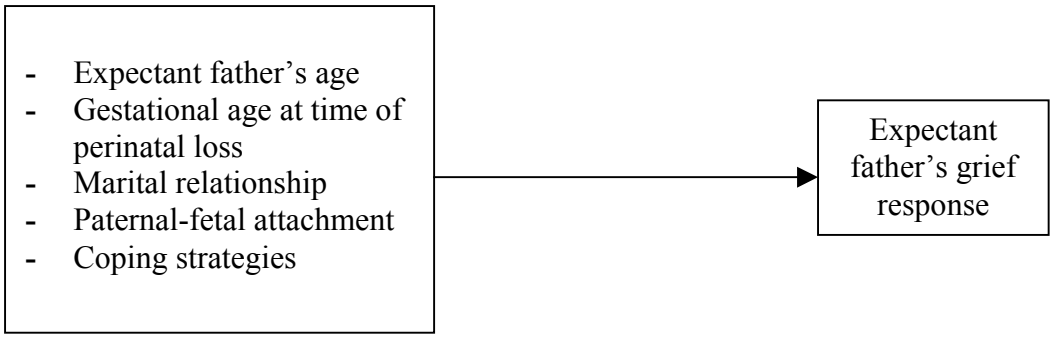

Figure 2. Relationships between the studied variables

Research questions

1. What are the features of the selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and expectant father's grief response to perinatal loss?

2. What are the relationships between the selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and expectant father's grief response to perinatal loss?

3. What are the predictors of expectant father's grief response to perinatal loss?

Purposes of the study

1. To describe the selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and expectant father's grief response to perinatal loss.

2. To investigate the relationships between the selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and expectant father's grief response to perinatal loss.

3. To examine the predictors of expectant father's grief response to perinatal loss.

Hypotheses of the study

1. There are relationships between the selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and the expectant fathers' grief response to perinatal loss.

2. The selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, can predict the expectant father's grief response to perinatal loss.

Scope of the study

This a descriptive correlational study design to examine the relationships and predictability between selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies and expectant father's grief response to perinatal loss in 100 expectant fathers whose wives were admitted for miscarriage/spontaneous abortion, dead embryo, blighted ovum, death of fetus *in utero*/stillbirth, induced abortion due to fetal abnormality, and ectopic pregnancy at the high-risk ward of the Obstetrics and Gynecology Department, Faculty of Medicine, Ramathibodi Hospital, during the period August to December, 2004.

Expected Outcomes and Benefits

1. For nursing education

This result will useful in creating a health database for a guide to intervention planning, to improve physiological and psychological nursing care.

2. For nursing practice

Knowledge from this study, about which factors are related to greater grief response to perinatal loss, can help nurses who work with this group of expectant fathers to determine which expectant fathers are risk of maladaptive grief and provide appropriate care for them.

3. For nursing research

This study can be used as a guide for further study into perinatal loss and the expectant father e.g. caring needs, or the effects of nursing support on perinatal grief.

Definition of variables

Perinatal loss refers to loss of a pregnancy at any gestational age. In this research it covered miscarriage/spontaneous abortion, ectopic pregnancy, blighted ovum, stillbirth/death of fetus *in utero*, dead embryo, and induced abortion due to fetal abnormality.

Expectant fathers' grief response refers to the emotional response following loss of pregnancy, which can be expressed in the form of active grief, difficulty coping, and despair. It can be measured by the Perinatal Grief Scale (PGS) of Toedter and others (1989: 29-45), which consists of 33 items. High scores indicate more grief, while low scores indicate less grief.

Expectant father's age refers to the full years of chronological age of the expectant fathers confronting perinatal loss, counting from the date of birth to the date of data collection, excluding numbers of months.

Gestational age at time of perinatal loss refers to the length of the pregnancy, expressed in weeks since the last menstrual period, counting from the date of last menstrual period to the date of data collection, excluding the numbers of days.

Marital relationship refers to the perception of an expectant father about his relationship with his wife, including dyadic consensus, dyadic satisfaction, dyadic cohesion and expression of affection. It can be measured by the Dyadic Adjustment Scale (DAS) of Spanier (1976: 15-28), which was translated into Thai and modified for use among teenage mothers by Vajjamai Sookkavanawat (B.E. 2541). High scores indicate a good marital relationship, while low scores indicate a poor marital relationship.

Paternal-fetal attachment refers to an affectionate tie the father forms with the fetus, which is expressed through his thoughts, feelings, and behaviors, which represent an affiliation with the fetus. In this study, this attachment is measured by the Paternal-Fetal Attachment (PFA) of Cranley (1981), which was translated into Thai and modified for use among first-time fathers by Nisarut Hoko (B.E. 2540). This scale is composed of five dimensions--differentiation of self from the fetus, interaction with the fetus, attributing characteristics and intentions towards the fetus, giving of self, and role taking. High scores indicate good paternal-fetal attachment, while low scores indicate poor paternal-fetal attachment.

Coping strategies refer to the person's habitual responses used to maintain a stage of adaptation or what the person does about a problem. Coping strategies are divided into three categories--confrontive, emotive, and palliative coping strategies. All of these coping strategies are measured by the Jalowiec Coping Scale (1984), which consists of 36 items, and which was translated by Surang Prungdech (B.E. 2533). High problem- or affective-oriented coping strategy scores mean that the expectant fathers with perinatal loss are individuals who use particular coping strategies.

CHAPTER II
LITERATURE REVIEW

This a descriptive correlational study design aimed to examine the relationship and predictability of selected factors—expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies—with expectant father's grief response to perinatal loss. The literature review in this chapter includes: loss, perinatal loss, grief, factors affecting grief response of perinatal loss, expectant father's grief response to perinatal loss, marital relationship, paternal-fetal attachment, coping strategies, and the relationships between the selected factors and expectant father's grief response to perinatal loss.

Loss

Loss is the experience of losing something or someone, a normal event throughout human life. Loss occurs when a valued person, object, or situation is changed or made inaccessible so that its value is diminished or removed. There is both temporary loss and enduring loss. Loss of a loved one is enduring loss (Bower, 1980: 9; Bright, 1996: 1-2; Sherwan et al., 1999: 907; Taylor et al., 1993: 205; Ward & Associates, 1993: 29)

Types of loss:

Peretz (1970 cited by Littleton & Engebretson, 2002: 1240-1241; Rambo, 1984: 281) grouped losses into four categories:

1. Loss of a significant person may occur through death, divorce, separation, rejection, or abandonment. This loss is the painful price one pays for loving another human being.

2. Loss of some aspect of self may be either physical or psychological and may include an individual's ideation, feelings of worth, and lovability. Physical losses may be structural, such as the loss of the mother's round belly or the feeling of the fetus kicking, or they may be functional, such as when the uterus is intact but unable to

maintain a pregnancy. Psychological loss of self may include loss of memory, loss of judgment, or loss of self-esteem. This type of loss can also be related to fantasies or expectations about a desired career or a pregnancy that failed to produce a healthy infant.

3. Loss of external objects, occurs when an individual loses possessions, such as money, material goods, or a home. These losses can occur from, for example, difficult economic times, natural disasters, or robbery. During a pregnancy, the objects would include infant toys and clothing bought in preparation for the birth.

4. Developmental losses comprise the fourth category outlined. Throughout the life span, developmental tasks must be met and mastered as a prerequisite to progressing through the life cycle; parenthood is an expected developmental task for many people. These losses are normal and occur naturally in the process of living. There is no real growth or change without loss. For example, a child loses that status of being the only child when a sibling arrives, young adults lose the close relationship with their parents when they move away from home and begin living independently, and women loss the physical ability to procreate at menopause.

Perinatal loss

Perinatal loss occur when fetuses die between 20 weeks' gestation and birth, or newborns die within 30 days after birth (Zeanah, 1989: 468).

Perinatal loss refers to the loss of a baby of more than 500 g up to the first 28 days of life (Caeli, Downie & Letendre, 2002: 127).

In addition, the perinatal period refers to the time between the 28th week of gestation and the 28th day after birth, which is the term increasingly used in medial settings to refer to the entire pregnancy and postpartum period (Potvin, Lasker & Toedter, 1989: 32). These arbitrary time limits have become less useful with advances in developmental biology and diagnostic sonography. The pre-embryonic period is defined as conception through the first 5 weeks of pregnancy from the first day of the last menstrual period. The embryonic period begins at 6-9 weeks' gestation and the fetal period is from 10 weeks until delivery (Scott, DiSaia, Hammond & Spellacy, 1999: 143).

In this study, perinatal loss refers to the loss of pregnancy at any gestational age.

Types of perinatal loss

Perinatal loss includes spontaneous abortion, ectopic pregnancy, fetal death, and neonatal death Potvin, Lasker & Toedter, 1989: 32).

Perinatal loss includes early pregnancy loss and loss in late pregnancy. Early pregnancy loss includes spontaneous abortion (miscarriage), induced abortion and ectopic pregnancy. Loss in late pregnancy may be classified as stillbirth, in which the baby is born after 24 weeks' gestation and shows no signs of life, or neonatal death, in which the baby is born alive but dies within the first month (Henderson & Jones, 1997: 156-160).

Perinatal loss includes miscarriage, stillbirth and neonatal death (Hutti, 1998: 338).

Reproductive loss can include monthly menstruation for the infertile couple, miscarriage, pre-term birth, birth of a child with an anomaly, death of one or more of a multiple gestation, intrauterine infant death, neonatal death, relinquishment, and sudden infant death syndrome (SIDS) (Littleton & Engebretson, 2002: 1244)

Perinatal loss includes ectopic pregnancy, miscarriage, stillbirth, pre-term birth, neonatal death, congenital anomaly, infant death, selective reduction or death of multiples, and relinquishment for adoption (Wallerstedt & Higgins, 1994 cited by Wallerstedt & Baldwin, 2003: 533).

In this study, perinatal loss includes spontaneous abortion or miscarriage, blighted ovum, dead embryo, dead fetus *in utero*/stillbirth, fetal abnormality, and ectopic pregnancy.

Definition of types of perinatal loss

Miscarriage includes spontaneous events and induced abortions (Wood & Esposito, 1987 cited by Gillbert & Harmon, 1993: 113).

Miscarriage, or spontaneous abortion as it is know by medical professionals, is the unintended ending of a pregnancy before the fetus can survive outside the mother (Shapiro, 1993: 115). Miscarriage is defined as a pregnancy loss prior to 20 weeks' gestation (Scott, DiSaia, Hammond & Spellacy, 1999: 143). Miscarriage is the death of an embryo or fetus weighing under 500 g within the first 20 weeks of pregnancy. It occurs in 15-20% of all pregnancies (Hutti, 1998: 338). Miscarriage, medically termed "spontaneous abortion", is the termination of a pregnancy and explusion of the fetus

by natural means prior to the 25th week of pregnancy (Wetzel, 1982 cited by Day & Hooks, 1987: 305). **Abortion** is the termination of a pregnancy by any means before the fetus is sufficiently developed to survive. In the United States, this definition is confined to the termination of a pregnancy before 20 weeks, based upon the date of the first day of the last normal menses. Another commonly used definition is the delivery of a fetus/neonate that weighs less that 500 g. In some European countries, the definition is less that 1000 g (Cunningham, 1997: 582). Seventy-five percent of all miscarriages occur within the first twelve weeks, and about half of these early miscarriages are caused by an abnormality in the embryo or in the process of its implantation in the uterus. The fetus may be deformed because of genes inherited from the parents, but more often a chance mutation has occurred during fertilization or the early growth of the embryo (Borg & Lasker, 1981 cited by Shapiro, 1993: 115).

Miscarriage is a lay term for a spontaneous abortion, in which the embryo or fetus is prematurely expelled from the uterus before 20-24 weeks' gestation (Symonds, 1992; Pernoll & Garmel, 1994). The vast majority (75%) of spontaneous abortions occurs before 16 weeks, and 62% occur before 12 weeks (Pernoll & Garmel, 1994). Thus, early spontaneous abortion (miscarriage) can be defined as the 'loss of a pregnancy up to 16 weeks from the beginning of the last menstrual period' (Houwert-De Jong et al., 1990: 534 cited by Henderson & Jones, 1997: 156)

Dead embryo. About one third of abortus specimens from losses occurring before 9 weeks' gestation are anembryonic (Scott, DiSaia, Hammond & Spellacy, 1999: 143).

Blighted ovum. Some cases of empty gestational sacs or "blighted ova" actually represent pregnancy failures with subsequent embryonic resorption (Scott, DiSaia, Hammond & Spellacy, 1999: 143). Hemorrhage into the decidua basalis and necrotic changes in the tissue adjacent to the bleeding usually accompany abortion. The ovum becomes detached and stimulates uterine contractions that result in expulsion. When the sac is opened, fluid is commonly found surrounding a small macerated fetus or, alternatively, there may be no visible fetus in the sac, (Cunningham, 1997: 582). This occurs when a pregnancy sac is formed but there is no developing baby within the sac. This is diagnosed by ultrasound, usually after some bleeding.

A missed abortion occurs when the fetus dies *in utero* but there are no symptoms such as cramping, spotting, or bleeding (Shapiro, 1993: 115). A missed abortion will ultimately result in many of the same especially painful dimensions. Referring to the fetus that has died *in utero*, but has not been expelled, a missed abortion may occur at any time during the first twenty weeks of pregnancy. It will probably first be detected by the woman, who finds that the symptoms of her pregnancy have ceased. Her breasts are no longer tender, she may no longer feel the nausea and exhaustion of the early months of pregnancy, and she often feels that things are "not right". She may observe a brown vaginal discharge; and, if her pregnancy is more advanced, she no longer feels fetal movement.

Ectopic pregnancy occurs when a fertilized egg is lodged in an abnormal location, usually in one of the two Fallopian tubes. The pregnancy cannot progress in such a restrictive environment, and if surgery to remove the embryo is not performed in time, the tube may rupture. Diagnosis of an ectopic pregnancy can be difficult, however, because the woman may not even know that she is pregnant (Shapiro, 1993: 121). This is when a fertilized ovum implants in an area outside the uterine cavity; it occurs in about 1 in 200 pregnancies, although the incidence is increasing. While the most common site is in the Fallopian tubes, implantation can occur in the ovary, the abdominal cavity or the cervix. The main causes related to factors that either prevent or impede the movement of the fertilized ovum through the Fallopian tubes and into the uterus. Such factors include previous termination of pregnancy and pelvic inflammatory disease, the presence of an intrauterine contraceptive device (IUCD) and a history of fertility problems (Hendeson & Jones, 1997: 158).

A pregnancy that aborts after the twenty-sixth week is called a **late abortion** or a **premature birth**, depending on the weight of the fetus. Late spontaneous abortion occurs during the 17^{th} through 28^{th} weeks of pregnancy. In late miscarriage, the fetus is usually normal, but there are problems in its attachment to the placenta or to the uterus; there also may be abnormalities in the structure of the uterus itself. Sometimes the cervix is too weak ("incompetent" is the medical term) and dilates too early (Shapiro, 1993: 115).

Dead fetus *in utero*/stillbirth, is defined as the death of the fetus between the twentieth week of pregnancy and birth It is always a tragic blow to prospective

parents. Whether the baby dies prior to the onset of labor, during labor, or at delivery, the parents feel completely unprepared for this unanticipated pregnancy outcome. In the United States, one stillbirth occurs for every eighty live births (Friedman & Gradstein, 1982 cited by Shapiro, 1993: 125). Stillbirth is the death of a fetus weighing more than 500 g after 20 weeks' gestation, but before birth. Two in 100 pregnancies result in stillbirth (Hutti, 1998: 338). Loss in late pregnancy may be classified as stillbirth, in which the baby is born after 24 weeks' gestation and shows no signs of life, or a neonatal death, in which the baby is born alive but dies within the first month. The definition of stillbirth was reduced from 28 to 24 weeks following the Stillbirth (Definition) Act 1992, which gives recognition to the parents' needs after delivery of a viable baby (Henderson & Jones, 1997: 160).

Fetal abnormality. The frequency of chromosomally abnormal spontaneously aborted products of conception in the first trimester is approximately 60% and decreases to 7% by the end of week 24. The rate of genetic abnormalities is even higher in anembryonic miscarriage. Autosomal trisomies are the most common (51.9%), but the relative frequency of each type of trisomy differs considerably. Trisomy 16, which accounts for about one third of all trisomic abortions, has not been reported in liveborn infants and is therefore highly lethal; trisomy 22 and 21 follow in frequency. The next most common chromosomal abnormalities, in decreasing order, are monosomy 45, X (the most common single karyotypic abnormality), triploidy, tetraploidy, translocations, and mosaicism (Scott, DiSaia, Hammond & Spellacy, 1999: 143).

Neonatal death is the death of any infant born alive in the first 28 days after birth. One in 60 deliveries result in neonatal death (Hutti, 1998: 338).

Therapeutic abortion is the termination of a pregnancy by medical intervention owing to a fetal anomaly or risk to the mother's life. Two procedures are used: 1) dilatation and curettage (D&C), which is the opening of the cervix and scraping of the uterine lining to empty the contents, which can be done in the surgical suite of a labor and delivery unit; 2) dilatation and evacuation (D&E), in which suction is used to remove the products of conception, which also is a surgical procedure. Regardless of the circumstances, a feeling of sadness and regret may be experienced. When abnormality in the fetus is diagnosed, the client or couples are given a choice. If

the mother's life is not in jeopardy, the choice is to end the pregnancy now or let nature take its course. The decision must be made quickly in most cases, because test results usually are not available until around the time of fetal viability. Once beyond that point, most hospitals will not permit a therapeutic abortion to be performed. Families who undergo elective abortion, for whatever reason, experience loss (Littleton & Engebreston, 2002: 1245).

Sudden infant death. If the child is healthy at birth, or is premature and survives the neonatal period, graduating from the NICU, the family will be given instructions on what to do to decrease the risk of **sudden infant death syndrome (**SIDS). SIDS refers to any death of an infant that is unexpected and in which a thorough postmortem examination, medical history, and case study demonstrate adequate care before death. Infants are most at risk for SIDS during the first 6 months of life. SIDS usually occurs during sleep, with no evidence of disease (Littleton & Engebreston, 2002: 1246).

Relinquishment refers to a mother's decision to give up her right to parent her child (Littleton & Engebreston, 2002: 1245).

Grief

Grief is the emotional response that follows the loss of a valued person or object. The grieving response includes feelings of sorrow, loneliness, fear and guilt, as well as helplessness, powerlessness, and anger. Grief is a normal, adaptive process that develops to resolve the pain associated with loss (Rambo, 1984: 282).

Grief is the normal process by which intense emotional ties to the deceased are gradually detached so that normal life can be resumed (Stierman, 1987: 352).

Grief is an intrapersonal, affective response to any loss. Grief is characterized by sadness, despair, anxiety, and conflict and may precipitate disruptions in psychological, cognitive, and interpersonal function (Murphy in Baird, McCorkle & Grant, 1991: 82).

Grief is conceptualized as the emotion associated with the loss of an attachment bond (Bowlby, 1969 cited by Brost & Kenney, 1992: 458).

Grief is pervasive, in that it can affect every aspect (physical, emotional, spiritual, and social) of people who experience a significant loss. Attributes such as

fatigue, loneliness, anxiety, somatization, guilt, anger, denial, social desirability and depression have been used as empirical referents (Jacob, 1993: 1789)

Grief, or bereavement, has been described as a cluster of painful responses experienced by individual coping with the death of someone with whom they had a close relationship, generally a relative or close friend (Lindermann, 1944; Osterwise, Solomon & Grenn, 1984; Parkes, 1972, 1983 cited by Lowdermilk, Perry & Bobak, 2000: 1135).

Grief is an emotional rather than an intellectual or rational response. The feeling may seem crazy, out-of-control, overwhelming, and all-consuming to the individual (Ewton, 1993 cited by Littleton & Engebretson, 2002: 1241).

Grief is defined as the emotional response to a loss (Menke & McClead, 1990 cited by Caeli, Downie & Letendre, 2002: 129)

Stages of grief

Kübler-Ross (1969 cited by Townsend, 1996: 26-27), in extensive research with terminally ill patients, identified five stages of feelings and behaviors that individuals experience in response to a real, perceived, or anticipated loss:

Stage 1 – Denial. This is a stage of shock and disbelief. The response may be one of "No, it can't be true!" The reality of the loss is not acknowledged. Denial is a protective mechanism that allows the individual to cope within an immediate timeframe while organizing more effective defense strategies.

Stage 2 – Anger. "Why me?" and "It's not fair!" are comments often expressed during the anger stage. Envy and resentment toward individuals not affected by the loss are common. Anger may be directed at the self or displaced on loved ones, caregivers, and even God. There may be a preoccupation with an idealized image of the loss entity.

Stage 3 – Bargaining. "If God will help me through this, I promise I will go to church every Sunday and volunteer my time to help others". During this stage, which is usually not visible or evident to others, a "bargain" is made with God in an attempt to reverse or postpone the loss. Sometimes, the promise is associated with feelings of guilt for not having performed satisfactorily, appropriately, or sufficiently.

Stage 4 – Depression. During this stage, the full impact of the loss is experienced. The sense of loss is intense, and feelings of sadness and depression

prevail. This is a time of quiet desperation and disengagement from all association with the loss entity. This stage differs from pathological depression in that this is a stage of advancement toward resolution rather than a fixation in an earlier stage of the grief process.

Stage 5 – Acceptance. The final stage brings a feeling of peace regarding the loss that has occurred. It is a time of quiet expectation and resignation. The focus is on the reality of the loss and its meaning for the individuals affected by it.

Not all individuals experience each of these stages in response to a loss, nor do they necessarily experience them in this order. Some individuals' grieving behaviors may fluctuate, and even overlap, between stages.

Factors affecting grief response of perinatal loss

When a person passes through each stage of the grieving process to the final stage, both positive and negative factors affect the person experiencing the loss. However, factor affecting one person may not affect others. According to Rando (1984, cited by Canine, 1996: 11-118), three factors should be considered in helping the grieving person, as follows:

1. **Psychological or internal factors.**

1.1. **Meaning of the loss**. Because each relationship between any two people is unique, no two people will grieve in precisely the same way. The individual's perception of the loss will be the force driving the grieving process. The death of a dear and close friend and confidant may be more difficult for someone than the death of a person for whom the individual had little affection. The pregnant woman who intended to have a pregnancy and had a pregnancy loss, who lost her beloved one, to whom she was attached, would have different grief from one who did not. This finding is consistent with the study of Graham, Thompson, Estrada and Yonekura (1987: 254), which reported that pregnancy loss would have meaning for the mother, depending upon their need for that baby.

1.2. **Quality of the relationship**. Whenever someone dies, the bonds between the deceased and the griever must be undone. The stronger the bonds are, the more difficult they will be to sever.

1.3. **Age of the griever**. There are immense differences between the way an adult and a child deal with grief. Teenagers suffering a serious loss exhibit a range of behaviors that may be puzzling and disturbing to caring adults. Previous research has shown that younger widows and widowers (<40 years) tended to have a more difficult time accepting their loss than those who were older and enjoyed longer relationships (Rando, 1984 cited in Canine, 1996: 111). Older pregnant women had more maturity, a better ability to be patient with the changing situation, with consciousness, more learning, and more previous experience of decision-making than younger ones. Thus, older people had more learning experiences in coping with problems than younger ones (Anderson, 1980: 1519).

1.4. **Deceased's unique characteristics**. In general, the natural order of things in society dictates that older people die before younger ones. The death of an infant, a child or a young adult is therefore seen as a violation of nature and as a lost opportunity (Rando, 1984 cited by Canine, 1996: 112). The age of a fetus in counted in two different ways, the age of the pregnancy or the gestational age of pregnant woman, which is divided into three trimesters: 1) first trimester, ranging from the first to the twelfth week, 2) second trimester, ranging from the thirteenth to the twenty-fourth week, and 3) third trimester, ranging from the twenty-fifth to the fortieth week. Previous studies have shown that early pregnancy loss, including spontaneous abortion, ectopic pregnancy and therapeutic abortion, was different from late pregnancy loss, including stillbirth and perinatal death (Zeanah, 1989: 468). Moreover, it is often grieved more intensely than, say, the death of a ninety-year-old great grandmother. It would be a mistake; however, to assume more vigorous grief based solely on the deceased's age. An argument could be made that the loss to society of the great grandmother's wisdom and tenderness is greater than the loss of a newborn, whose future is simply a blank page. Although the loss is natural and normal, unique elements of the deceased's personality, attitudes, or predilections will be missed and mourned by the survivors (Rando, 1984 cited in Canine, 1996: 112).

1.5. **Griever's mental state**. It is often said that past behavior is the single best predictor of future performance. This holds true for the grieving process. How an individual has handled crises in the past will largely determine how the current death

crisis will be handled, as well. Individuals use the coping mechanisms that are familiar to them or that have been effective in the past--whether or not these mechanisms are healthy.

1.6. **Griever's maturity and intelligence**. The more mature and intelligent the bereaved individual, the more likely he or she is to possess and employ the needed coping mechanisms and skills to be able to insightfully work through and resolve the loss satisfactorily (Rando, 1984 cited by Canine, 1996: 113). Teenagers suffering a serious loss exhibit a range of behaviors that may be puzzling and disturbing to the caring adult (Anderson, 1980: 1519).

1.7. **Previous experiences with loss**. Loss and death does not automatically enable the bereaved to manage sequential or later losses better than someone experiencing death for the first time. The manner in which earlier major losses were resolved (or not resolved) play an important role in how the current loss is managed. Previous, unresolved losses may resurface and resonate for the griever concurrently with the newest loss, thus complicating and impeding the mourning process, or what is known as "bereavement overload".

1.8. **Preventability of the death**. Uncertainty about the preventability of a person's death can profoundly affect the severity of mourning and how long the grief process may last. If a person faced with the sudden death of a beloved perceived that the deceased would not have died if there had been someone acting to help or calling for assistance, the ability to accept and resolve this loss may last for several months. On the other hand, if a person lost her/his beloved to terminal cancer, from the initial diagnosis to the moment of death, and the finest care was provided, it would be perceived that the death was inevitable. The person enduring the loss would be free for healing and working directly towards resolution of the grief, without risk of the process becoming prolonged.

1.9. **Additional stressors**. Additional stressors for the bereaved individual often split the ability to pay attention and give time to the grief process.

2. Sociological of external factors

Sociological factors are those that are called "social support", which are important in assisting a person to complete the grieving process.

2.1. **Available support systems**. A longtime relationship would bring about personal concern and the offering of more substantial and meaningful levels of support than a relatively new one. If a close family member dies, the encouragement, empathy and sustenance gained from positive relationships positively affect the successful resolution of grief for the person sustaining the loss.

2.2. **Cultural background and context**. In each culture, the different standards and expectations for behavior during the grieving process can greatly aid the resolution of an individual's grief.

2.3. **Funerary rituals**. Funerals are designed to assist the griever in accepting the reality of the loss and permit the expression of the grief that accompanies it. Funerary rituals can help significantly in the overall bereavement outcome. These rites vary widely among different cultural groups and may further be affected by the sex, age and social position of the deceased.

3. Physiological factors

Some common physical issues that have been identified as potentially affecting bereavement outcomes are as follows:

3.1. **Drugs and sedatives**. Physicians frequently prescribe sedatives or tranquilizers to grievers to reducing anxiety or obtain needed sleep. There is evidence, however, that chemically induced "numbing out" of one's feelings has a negative effect on the grieving process. Some cases submit to the abuse of alcohol to block feelings of sadness and despair. The potential addictive behaviors and the use of illegal narcotics are well known.

3.2. **Nutrition** after experiencing the shock of a death. It is common for many people to lose their appetite and feel unable or unwilling to eat. Gastrointestinal disturbances are also common.

3.3. **Rest and sleep**. A normal by-product of the grieving process is the experience of some types of sleep disturbance, which can include difficulty in falling asleep or staying asleep, or it may manifest in sleeping for abnormally long periods, perhaps as an escape from painful feelings. The initial problem of sleeplessness can lead to the use of sleep-enhancing tranquilizers.

3.4. **Exercise**. A bereaved person should not abandon his or her regular exercise routine, and if there is no such regimen, should be encouraged to begin one.

Exercise promotes the production of endorphins, chemicals in the human brain that create feelings of wellbeing. Exercise is also known to diminish levels of aggression and anxiety, and to relieve symptoms of depression.

In view of the abovementioned factors, many factors affecting grief should be explored. According to the study of Rando (1984 cited by Canine, 1996: 110-118), there were three dimensions of factors affecting grief--internal, external, and physical factors. Internal factors were giving meaning to the loss, age of the bereaved, and previous loss experiences. External factors included social support and traditional culture. Physical factors included tranquilizer use, nutritional status, exercise, sleep and rest. In this study, the factors affecting the grief of expectant fathers in perinatal loss included not only internal factors (such as father's age and gestational age at time of perinatal loss), but also external factors (such as the marital relationship, paternal-fetal attachment and coping strategies), which were indicators of emotional social support.

Expectant fathers' grief response to perinatal loss

When people experience loss of any sort, they suffer feelings of sorrow, hurt, pain, and discomfort, their state of wellbeing and effectiveness is interrupted by the loss. They send out cries of help to others in an effort to overcome their feelings of helplessness, powerlessness, and anger about what has happened to them. They cope with the loss through grief and mourning (Rambo, 1984: 282). Much of the literature and research on grief following perinatal loss and infant death has focused on the mother. Less is known about the experiences of fathers. The response of fathers may be more variable and depend on the level of identification with the pregnancy. With early miscarriage or ectopic pregnancy, some fathers may not have a strong investment in the wished-for child. However, many fathers do grieve deeply for miscarriage. Fathers are profoundly affected by a stillbirth or the death of an infant. Fathers are also distressed by the grief of the mother and often feel helpless as to how to help her with the intense pain. Some fathers appear stoic and unemotional to maintain the societal expectation that they be "strong" for the mother and other family members. However, it is important to realize that fathers may be experiencing deep pain beneath their calm and quiet appearance. Because fathers do not easily share their

feelings or ask for help, special efforts are needed to help them realize that they, too, have a right to support from others in their pain (Lowdermilk, Perry & Bobak, 2000: 1137). Moreover, men have been taught from an early age not to show their emotions or expect support. They are expected to make the decisions and protect the mother (Cordell & Thomas, 1990 cited by Worth, 1997: 72)

Becoming a father begins with anticipating the child. If all pregnancies are planned, this theme begins before conception and continues through the pregnancy by preparing the nursery, choosing names, and so on (Worth, 1997: 77). Thus, parents can experience grief before or during the childbearing experience. Grief involves painful feelings and related behavioral and physical responses to major loss. Grief can be particularly difficult with perinatal loss for a number of reasons. There is the social belief that there are no barriers to getting pregnant and there is an expectation that once a woman is pregnant the result will be a healthy live infant. As a result, our society tends to minimize perinatal loss and to lack understanding of the associated pain. Women and men who undergo perinatal loss struggle with these issues themselves and, because of these societal attitudes, may not receive the support they need. In addition, many perinatal losses are hidden or private, in that others may not know about the infertility or the early pregnancy that ended in miscarriage. In addition, perinatal losses may be intensified for couples who delay pregnancy until the woman's career and the family's financial status is at the right point to take on the responsibility of a child. Feelings of helplessness and loss of control can be very difficult when the couple experiences infertility or miscarriage. In many instances of perinatal loss, the lack of an identified cause for the loss can complicate grief. This is particularly difficult for women, who often feel personally responsible for infertility, miscarriage and infant death. In addition, some couples endure repeated losses, which can be devastating. All of these issues can reduce the support to bereaved women and men who experience perinatal loss

Worth (1997: 77) found two simultaneous processes occurred that were interactive throughout; fathering and grieving. Fathering occurred through the themes of anticipating the child, acknowledging the child's reality, experiencing empty arms, incorporating the child into the family, struggling for recognition, accepting the reality of altered fatherhood, and maintaining memories. Standard grief reactions and

behaviors occur, but in relation to the process of becoming a father to a stillborn child. The grieving begins when learning about the loss and continues through acknowledging the loss, dealing with practicalities, communicating the loss, coming to terms with the loss, and then moving on with life while maintaining memories of the child.

The initial reaction of all fathers was similar to the grief reaction documented in the literature, beginning with shock, disbelief and denial (Kubler-Ross, 1969 cited by Worth, 1997: 78). It was suggested that all fathers experience the following themes regardless of gestation, cause of death, in which pregnancy the death occurred during (i.e., first or subsequent), sex of the child, time since the death, or private versus hospital burial.

Marital relationship

A marital relationship is a relationship between two persons—profoundly, closely and specially. It is a voluntary attachment between two people that consists of contentment and the couple's performance as a husband and a wife, including the sexual relationship. A marital relationship is one of the most attaching relationships (Wantanee Wasikasin, B. E.2526: 92-93). After the wedding, the couples try to adapt their behaviors in order to avoid or solve problems together. Each couple tries to anticipate and follow the other (Locke & Williamson, 1985: 562). Marital adaptation is a compromise with each other. Adaptation is a process and an evaluation of the role functions of two people who are married. It is a phenomenon that consists of several factors reflecting the marital evaluation of the interaction and marital functions after the wedding (Spanier, 1976: 15)

Couples with good relationships will have love, understanding, interest, sympathy, give and take, compromise, patience, forgiveness and clear communication. These feelings can solve several conflicts and produce participation in assisting each other. Consequently, it enhances the pride and self-esteem of couples who have the opportunity to assist their beloved. According to Liberman (1986: 462), if a couple receives no useful benefit from one other, relationships with other persons do not substitute for this deficient feeling. The marital relationship, therefore, is an emotional

support and a close attachment. Moreover, it is the most important and effective resource for the mind (Cronenwett & Kunst-Wilson, 1981: 198). Cullberge (1972 cited by Zeanah, 1989: 467) found that about one third of respondents after perinatal loss had problems in marital life. However, the interview of Forrest, Standish and Baum (1982 cited by Zeanah, 1989: 467) indicated that half of the women had better relationships with their husbands after the loss of their baby. Moreover, 47% of women reported no change in the marital relationship and only 3% were divorced within six months after the loss of the baby.

According to Spanier (1976: 15), the marital relationship is a dynamic process, continuously progressing and changing. Measurement of the marital relationship may be a measure only of one point in the process, which may reveal either good or poor adaptation. It is not the measurement of the changing process. These measurements consist of dyadic consensus, dyadic satisfaction, dyadic cohesion, and affectionate expression.

1. **Dyadic consensus.** A couple should have consensus on the basic norms and goals in married life, mediating some factors to assist in maintaining a trouble-free marital and social relationship. Moreover, it produces contentment, helps interest in mutual activities, and living together happily. Previous research indicated that couples who had consensus on their opinions were more happy than those who did not--particularly in leisure activities, religious matters, proper behaviors patterns, philosophy of life, friends, ways of childbearing and family finances (Supaphan Kotarajarus, B.E. 2521: 307).

2. **Dyadic satisfaction.** Because anticipation becomes reality, a wife and a husband will receive happiness, comfort and satisfaction (Burr, 1970: 29-37). Moreover, they need satisfaction in their sexual responses and consistent sexual behaviors, as each desire. Consequently, their marital relationship will be good.

3. **Dyadic cohesion.** The responsibility to care for each other is indispensable in any marital relationship. If a spouse/partner falls ill, the other should increase their taking of responsibility, with satisfaction. A wife and a husband who are devoted to each other, spend their leisure activities together, have a stimulating exchange of ideas and divide the household work will see value in each other (Urick et al., 1984). Co-

responsibility in several matters produces a close relationship and attachment between wife and husband.

4. Affectionate expression. Because love is a promoting factor for marital adaptation, the couple will try to do what the other anticipates. However, love will decline as a result of a long marital life into an attachment. A happy couple will have love, understanding, concern for their happiness, give and take, compromise and patience (Jourard, 1970 cited by Vajjamai Sookkavanawat, B.E. 2541: 40).

As mentioned above, a marital relationship can change according to the influence of stimuli. Childbirth is a stimulus for a marital relationship, which has both negative and positive effects (Russel, 1974: 294). Moreover, the couple may realize that this stimulus will temporarily change their relationship. Furthermore, they may perceive the change in the marital relationship, although it occurred in whatever postpartum period.

Pregnancy loss is also a stressful stimulus for a marital relationship, which can produce several different effects; for example, a couple would feel difficulty talking about loss, which would result in a lack of emotional support for each other. Consequently, both of them would feel lonely, isolated and uncertain in their lives. The marital relationship has a great influence on the adaptation of expectant fathers after pregnancy loss. In some cases, parents reported that the fathers desired coitus on the day of the child's funeral. Fathers tended to view sexual activity as comforting and sharing, but often the mothers, because their grief was so intense, perceived the father to be uncaring and insensitive (Wallerstedt & Higgins, 1996: 391). It has been estimated that 70-90% of all bereaved parents experience divorce or separation during the year after the death of a child (Schiff, 1986 cited by Wallerstedt & Higgins, 1996: 391). The study of Toedter et al. (1988 cited by Zaccardi, Abbott & Koziol-McLain, 1993: 803) supported the view that poor marital relationship was significantly associated with severe grieving level.

The marital relationship may be a potential factor influencing the grief of expectant fathers after pregnancy loss. A good marital relationship, including making major decisions together, sympathy, concern, support, assistance and understanding of each other's roles and activities is an emotional support for the wife and husband to

cope with the pregnancy loss, assisting expectant fathers after pregnancy loss to adapt and cope with this grief appropriately.

Paternal-fetal attachment

Attachment has been defined by many respected authors as follows:

Klaus & Kennell (1976: 2; 1982: 2-3) defined attachment as the "unique relationship between two people that is specific and endures through time".

Bowlby (1977 cited by Wall-Haas, 1985: 50) further emphasized the significance of attachment as "a way of conceptualizing the tendency of a human being to make strong bonds to certain others…" and that "great emotional distress can result from the breaking of these bonds".

Rubin (1977 cited by Goulet et al., 1998: 1073) defined binding-in to an infant as the affectionate and motivational component of the maternal role identity process. One of the tasks in maternal role attainment begins during pregnancy.

Cranley (1981: 281) stated that a mother's attachment to her child forms the basis for her part in the socialization of that child.

Gilbert & Harmon (1986: 71) stated that attachment is a process influenced by many complex factors and is a permanent, interactional, emotional bond that exists for life.

Kemp et al. (1990: 65) stated that maternal prenatal attachment is the affectionate tie that the mother feels toward the fetus, which develops during the course of pregnancy.

Mikhail et al. (1991: 988) defined maternal attachment to the fetus as the mother's affiliation and interaction with her unborn fetus.

Goulet et al. (1998: 1073) described attachment as the process characterized by seeking and keeping closeness, the reciprocity of verbal and non-verbal exchanges, and feelings that are generally positive. It is the effective component of the relationship between parents and their infant that develops gradually.

In conclusion, paternal-fetal attachment is an affectionate tie the father forms with the fetus, which is expressed through his thoughts, feelings, and behaviors that represent an affiliation with the fetus. There are many factors influencing it. It is

developed gradually. In, addition, initial prenatal attachment experiences influence the infant-developed models of self, of others, and of attachment relationships in general in society.

Development of attachment

One early theorist did not believe attachment occurred prior to birth, so as a result, people who experienced perinatal loss would not experience grief (Deutsch, 1945 cited by Worth, 1997: 72). Current attachment theories have described antenatal attachment behaviors of the mother and the father (Cranley, 1981; Klaus & Kennell, 1982; Stainton, 1990 cited by Worth, 1997: 72). With the use of technology, particularly early ultrasound, attachment can begin even earlier than was once thought. Because of the antenatal attachment that occurs, grief would be expected as a natural reaction to the death of the unborn child (Worth, 1997: 72). British psychiatrist John Bowlby (1969 cited by Littleton & Engebreston, 2002: 1241) established the early work on attachment. His theory looks at how human beings create strong affectionate bonds with others and the strong emotional reaction that occurs when those bonds are threatened or broken. Bowlby believed that attachment behavior is distinct from feeding and sexual behavior; attachment behavior is seen in almost all species of mammals and has a role in survival. In addition, Klaus and Kennell believed that attachment begins prior to pregnancy when the couple plans the pregnancy. After quickening, a woman feels more attachment with her fetus. This feeling increases continuously as gestation progresses, and also in the next stage. Klaus and Kennell (1976: 40-43; 1992: 16) described events that are important to the formation of a mother's bond to her infant in various phases, as follows: (1) prior to pregnancy: planning the pregnancy, (2) during pregnancy: confirming the pregnancy, accepting the pregnancy, fetal movement, accepting the fetus as an individual and (3) after birth: birth, seeing the baby, touching the baby, giving care to the baby. Later, in their second edition (1982), they added some events, including labor and accepting the infant as a separate individual, as phases of a mother's bonding to her infant.

Parental attachment, beginning during pregnancy and continuing after birth, has been observed as a process, and documented by observable, quantifiable behaviors. Attachment behaviors include seeking and maintaining close proximity to

and exchanging gratifying experiences with the infant. Since attachment is an interactive process between partners resulting in satisfying experiences and an emotional bond motivating parental commitment to caring for the infant, questions are raised as to how much postpartum parental attachment is explained by earlier attachment to the unborn child (Mercer & Ferketich, 1990: 268). In addition, attachment takes the form of narcissistic love, which gradually changes to an appreciation of the fetus as a separate person, usually beginning with the mother's awareness of fetal movement. During pregnancy, women have several attachment behaviors, including talking to the fetus, calling the fetus by a pet name, offering the fetus food while eating, engaging the husband in conversations with the fetus, and pushing the fetus around to watch the movement or so the husband can observe the movement (Cranley, 1981: 281; Deutsh, 1945 cited by Koniak-Griffin, 1988: 269). These behaviors represent an affiliation and interaction with the unborn child. Klaus and Kennell (1982: 16) stated that unplanned or unwanted infants might seem more acceptable by the end of the first trimester. Most women who initially reject pregnancy come to accept it because the mother perceives the growing fetus as a separate individual. After quickening, a woman generally begins to have fantasies about what the baby might be like.

Cranley (1981: 281-284) described the relationship between mother and fetus in six aspects, as follows:

1. Differentiation of self from fetus: after quickening, the mother perceives fetal growth that confirms the fetus as a separate individual. Differentiation of self from the fetus is when the father accepts the fetus as a separate individual, loves it, attends to its movements, and feels that it occupies an essential position in his life.

2. Interaction with the fetus: the reaction of the mother, such as talking to the fetus, calling the fetus by a pet name, and poking the fetus to get him/her to poke back represents her affiliation with her fetus. Interaction with the fetus is when the father communicates with the fetus by talking and touching.

3. Attributing characteristics and intentions to the fetus: the mother may have some fantasies about the baby, such as what the baby's personality will be like. Attributing characteristics and intentions to the fetus is when the father attends to the

fetus by imagining or thinking of its appearances and sex, evaluates its health from its movements, and wonders about its activities.

4. Giving of self: the mother takes the best things for her baby, such as selecting food to ensure that her baby has a good diet. Giving of self is when the father provides support with the best things for his wife and baby, such as selecting food to ensure that his baby has a good diet.

5. Role taking: the attachment behaviors that a mother fantasizes about herself relating to her baby, such as feeding the baby and talking care of the baby. Role taking is when the father conducts specific activities to prepare for caring for an infant, both in the prenatal and postpartum periods: financial planning, sacrifices for the fetus, awareness of maternal and child (fetal) health, prepares purchases for the baby, and seeks information about maternal and child care.

6. Nesting: the mother who has attachment to the fetus might prepare things for the baby, such as clothes, furniture and a room. In the Maternal-Fetal Attachment Scale, this subscale was eliminated because of unreliability, resulting in the Maternal-Fetal Attachment Scale having five subscales.

May (1980 cited by Worth, 1997: 73) was one of the first researchers to address first-time expectant fathers. She identified three styles of attachment during pregnancy: the observer, the expressive style, and the instrument style. The majority of fathers identified themselves as belonging to the observer group. They saw themselves as onlookers with little emotional involvement in the pregnancy. The expressive style was more involved and often preoccupied with the man's own emotional involvement. These men planned to be active partners in early parenting. About 20% (all ethnic minorities) identified themselves as being in the instrumental style that focused on the tasks that had to be accomplished, emphasizing their responsibility. When fathers are attached to their unborn children, when pregnancy loss occurs, it is a stressful situation, and as a result, fathers suffer a grief response to loss. Brost and Kenney (1992: 458) stated that grieving and attachment are irrevocably intertwined. Grief cannot occur without a previous bond of attachment.

Coping strategies

Factors influencing grief and mourning include coping ability. Coping refers to strategies for dealing with a threat. A threat is a cognitive evaluation that one's life, health, wealth, or cherished social relationships are is danger (Lackmann & Sorencen, 1994: 1537). This process may consist of a rather large array of covert and overt behaviors.

In other words, coping is what people do when they have a problem (Aquieva & Messick, 1974 cited in Garland & Bush, 1982: 6) or the person's habitual responses used to maintain a stage of adaptation (Roy, 1991: 290). From the stress and coping perspective, an abortion is seen as an event that can be challenging or stressful. Stress has been defined as any event in which the environmental or internal demands (or both) tax or exceed the adaptive response of an individual, social, or tissue system and endangering his or her wellbeing (Lazarus & Luanier, 1978 cited in Garland & Bush, 1982: 23).

Coping also directly and indirectly affects subsequent appraisal (reappraisal), and it is therefore also a causal antecedent of the emotion that follows. Coping style is thought to influence the choice of coping strategies used in particular situations. Two main styles of coping have been reported.

1. Problem Focus Coping. This process changes the actual relationship, as when an attack or aggressive display wards off or demolishes an enemy; it is aimed at problem-solving or doing something to alter the source of the stress; it tends to predominate when people feel that something constructive can be done.

2. Emotional Focus Coping. This process changes only the way in which the relationship is attended to or interpreted. It is by no means passive, but has to do with internal restructuring, sometimes even to the point of changing a commitment pattern that cannot be actualized. The aim is to reduce or manage the emotional distress that is associated with the situation; it tends to predominate when people feel that the stressor is something that must be endured. These are divided into action i.e. confrontive, palliative, and emotive coping (Jalowiec, 1984 cited by Chapman & Pepler, 1998: 227).

Coping strategies for perinatal loss

The coping mechanisms that people develop relative to loss are heavily influenced by the society and culture in which they live. Factors influencing coping ability refer to many coping resources; they may be internal or external. Internal coping resources are learned individual responses due to a person's ability or effort, or a combination of both. External coping resources include an individual's social support network.

More specifically, there are at least five categories of coping resources:

1. Health/energy/morale: persons who are healthy, strong and optimistic would cope more easily than sickly, weak and despondent ones.

2. Problem solving skills include the ability to search for information, analyze the situation to identify the problem and generate alternative courses of action, weigh alternative courses of action, weigh alternatives with respect to desired or anticipated outcomes, and select and implement an appropriate plan of action. There are also important resources for coping.

3. Social networks are indicated to provide buffers and support, because people really do need people.

4. Utilitarian resources include money, as well as tools and references that make life easier for those who have access to them than for those who do not.

5. General and specific beliefs influence whether people think they can master most situations or are merely victims of circumstances and include the explanations they make for the occurrence of events, such as "God's will" (Folkman, Schaefer & Lasarus, 1979 cited by Garland & Bush, 1982: 11)

Relationships between selected factors and expectant father's grief response to perinatal loss

Expectant father's age:

Age is an indicator of a person's maturity. A man, who is an adult, can cope with problems better than a teenager. Age also plays a role in the reaction to loss (Patricia & Anne, 1993: 865). Many researchers have conducted studies to describe

the relationship between women with prenatal loss. Steen (1998: 62) stated that younger men and women suffer more intense grief, more symptoms, and are more prone to physical and mental illness than older men and women. Robinson & Stewart (1999: 235-249) studied 224 women with miscarriage and found that younger women with multiple miscarriages showed more depression in the early period after miscarriage than older women. In contrast, Peaugthes (1996: 39) stated that teenage mothers might suffer less grief than middle-aged mothers because the younger women are not ready to have children. Toedter, Lasker & Alhadeff (1988: 435) found that the variables that were significant predictors of grief were gestational age at time of loss and presence of living children, but that maternal age was not predictive of the degree of grief. Benfield et al. (1978: 171) reported that there was no relationship between maternal age and intensity of grief.

Gestational age at time of perinatal loss

Gestational age has been a widely studied issue. One study found that difference in gestational age was not related to difference in severity of maternal grief (Peppers & Knapp, 1980 cited by Zaccardi et al., 1993: 803), and another that there was no relationship between gestational age and maternal grief (Zeanah et al., 1993: 272). However, this research result was derived from a retrospective study with a sample group, and there were different ranges of time, from 6 months to 36 years, and unsuitable sample selection, so that there were methodological limitations. Theut and colleague (1989: 636-637) indicated that the mother who suffered a pregnancy loss at a later gestational age would endure greater maternal grief than for a pregnancy loss of early gestational age ($F_{1, 22}$ =1 4.94, p = .001). This study corresponds with the study by Kirley-Best (1981 cited by Theut et al., 1989: 637), who found that gestational age was the best predictor on maternal grief from pregnancy loss, because with more advanced gestational age there was greater progress in attachment between mother and fetus. Later, Theut and colleague (1990: 521-523) studied mothers with pregnancy loss over years by follow-up in 3 periods until the next child was 16 months old. The results indicated that had statistically significantly more maternal grief than mothers in younger gestational age. The study of Toedter and colleague (1988: 445) showed that

maternal age had a statistically significant positive correlation with maternal grief ($r = .39$, $p < .001$) and could predict maternal grief, in active grief (24%), despair (34%) and difficulty coping (50%), respectively. The study by Janssen and colleague (1997: 58) indicated that the mother with older gestational age would have more maternal grief than the mother with early gestational age, and it would include active grief, difficulty in coping, and despair. The result from study of Goldbach and colleague (1991: 464-465) was the same as the previous study at intervals of 6 to 8 weeks, 12 to 15 weeks and 26 to 30 weeks after loss ($p < .001$ to $< .50$).

In Thailand a study of the predictability of gestational age for maternal grief, conducted at Ramathibodi Hospital, Bangkok found that gestational age accounted for 4% of the variance in maternal grief (Tunlert, 2001: 50), while the studies of Benchasiriluck (2002: 63) and Julthanmas (2002: 64) found it did not correlate with maternal grief.

Marital relationship

Several studies (Kennell, et al., 1970; LaRoche, et al., 1984; Laurell-Borulf, 1982 cited by Lasker & Toedter, 1991: 511) indicated that the quality of the marital relationship is a key factor in coping with loss. Quality of marital relationship is an important index of social support (Eaton, 1978: 423-440). Several studies focused on the relationship between social support, spouse support, and maternal grief from prenatal loss, which mostly showed an inverse correlation (Kennell et al., 1970: 344-349; Forrest et al., 1982: 1475-1479; Toedter et al., 1988: 435-449; Friedman & Gath, 1989: 810-813; Zeanah et al., 1993: 270-275; Janssen et al., 1997: 56-61). A positive marital relationship was found to be associated with decreased grief reaction after prenatal loss. Toedter and others (1988: 435-449) found a negative correlation between quality of marital relationship and maternal grief ($r = -.48$, $p < .001$). This was consistent with the findings of Kennell and others (1970: 344-349), Laurell-Boruff (1982 cited by Toedter et al., 1988: 435-449) and Janssen and others (1997: 56-61). Moreover, Toedter and others (1988: 435-449) found quality of marital relationship was a predictive factor for grief intensity, but it was not found in Janssen's study (1997: 56-61).

Paternal-fetal attachment

Brost & Kenney (1992: 458) claimed that grieving and attachment are irrevocably intertwined, so that grief cannot occur without a previous bond of attachment. Recent evidence suggests that attachment may begin during pregnancy rather than the first hours following birth, and that the strength of the marital relationship may somehow influence the father's beginning relationship with his unborn child. Since there are no physical changes in the father to trigger his fatherliness, he must experience it vicariously through the woman (Josselyn, 1956 cited by Weaver & Cranley, 1983: 68). Thus, paternal-fetal attachment may be a factor influencing grief response after loss. Moreover, Shapiro (1993: 15) stated that it is especially important to inquire about the degree of attachment the client had to what was lost. Most of his attachment centers on acceptance and support of the mother's changing physical and emotional state. When a threat to the health of the mother or the fetus develops, the father may feel guilty for his inability to protect the mother and the fetus and assure a safe passage for them (Wohlreich, 1987 cited by Gilbert & Harmon, 1993: 101). In general, the stronger the attachment, the more intense the feelings loss will be.

Coping strategies

The other factors influencing grief and mourning include coping ability for dealing with loss. The coping mechanisms that women develop relative to loss are heavily influenced by the society and culture in which they live (Lackmann & Sorencen, 1994: 1537). Two studies found that high self-efficacy for coping with loss was related to received social support from the partner, close friends and family (Robinson, 1995: 158-164; Major et al., 1990: 452-463). Robinson (1995: 158-164) conducted research on the relationship between the coping process, social support and grief response in 65 widows in their second year of widowhood. It was found that there was a moderately significant positive relationship between social support and the coping process, and between social network and the coping process. A significant relationship was also found between coping process and grief response. Several

researchers have emphasized the ubiquitous need to grieve and to resolve feelings of guilt and despair in women who experience miscarriage.

From the literature review, it was indicated that the expectant father's grief response was influenced by many potential factors. However, the results were inconsistent, which may be due to differences in the studied populations and settings. Therefore, the researcher aimed to study the relationships among expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, coping strategies, and expectant fathers' grief response in perinatal loss, and their predictive power for the grief response of Thai fathers by using the Roy adaptation model as a theoretical framework.

CHAPTER III
MATERIALS AND METHODS

The aim of this a descriptive correlational study design to examine the relationships and predictability between selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and expectant father's grief response to perinatal loss. The population and sample, instruments, data collection and data analysis are described in this chapter.

Population and sample

The sample population of this study was expectant fathers whose wives had suffered perinatal loss and had been admitted to the High Risk Ward of Ramathibodi Hospital, Bangkok, Thailand, from August to December 2004. The sample was purposively selected by using the inclusion criteria, as follows:

1. Had a completed perinatal loss, which was investigated and diagnosed by an obstetrician any time during the pregnancy.
2. Able to read, write or communicate in the Thai language.
3. Willing to participate in the study.

Sample size

A sample size of this study was calculated based on power analysis of Polit, Beck (2003). That determines the sample size following selected variables. With five independent variables (e.g., expectant father age, gestational age at time of loss, marital relationship, paternal-fetal attachment, and coping strategies) in multiple regression analysis. The researcher wanted to achieve power of .80, alpha of .05, and moderate effect size of .13, a sample size of 92.1 subjects was required. However, to prevent the loss of subjects, the sample size of 100 was recruited. (See Appendix A)

Setting

This study was conducted in the High Risk Ward of Ramathibodi Hospital, where there were 19 beds. The women who were diagnosed with blighted ovum, dead embryo or dead fetus *in utero* would be hospitalized for termination of pregnancy by taking misoprostal orally or by vaginal suppository. After not more than 24 hours of treatment, the conceptus product was expelled. Some women would need uterine curettage before discharge from hospital. During this time, the researcher approached the subjects to ask for their cooperation in the study and to answer the questionnaires, taking about 30-45 minutes.

Instruments

The questionnaire used in this study had four parts, as follows:

1. The demographic questionnaire

This recording form was developed by the researcher to collect the subjects' demographic data, including age, level of education, religion, marital status, occupation, family income, number of pregnancies, gestational age and history of pregnancy loss.

2. The perinatal grief scale (see Appendix F)

The perinatal grief scale (PGS) (Toedter, et al., 1988: 435) was developed as part of a longitudinal study of factors affecting grief resolution after miscarriage, stillbirth, neonatal death, or ectopic pregnancy. The PGS was based on an extensive review of the literature and some core items from the Expanded Texas Grief Inventory (Zisook, Devaul & Click, 1982: 1590) and the six key signs of grief identified by Kennel, et al. (1970). The items were based on 21 dimensions thought to be important to perinatal loss, which were determined through previous research in the field (Toedter, et al., 1988: 435). Initially, the PGS had 104 items answered on a 5-point Likert scale, with responses ranging from strongly agree (1), agree (2), neither agree nor disagree (3), disagree (4), and strongly disagree (5); the PGS yielded an alpha coefficient of .90.

Hutti, dePacheco & Smith (1998: 548) removed 20 items with a corrected item-total correlation of .20 or less from the original 104 items, resulting in an 84-item version of the PGS, with an alpha coefficient of .97. Three factors influencing grief

were identified by factor analysis with varimax rotation and were named Active Grief, Difficulty Coping, and Despair. These three factors appeared to be internally consistent, with alpha coefficients ranging from .95 for Active Grief to .87 for Despair.

A short version of the PGS (Potvin, et al., 1989) also has been developed. The short version contains 33 items and has an overall Cronbach's alpha of .95 and subscale reliabilities of .92, .91, and .86. Test-retest reliability scores for the total scale range from .59 to .66, at a significance level < .001. The same three factors were extracted again after factor analysis, accounting for 49.8% of variance. Active grief is a normal grief reaction that may follow a pregnancy loss. Difficulty Coping and Despair represent increasingly severe forms of grieving. The short version of the PGS was found to be essentially equivalent to the long version.

In this study, the researcher translated from the PGS into Thai for expectant father's whose wives had experienced perinatal loss. It had 33 items, with 11 items each for active grief, difficulty coping, and despair. The instrument consisting of 31 positive items (nos. 1-10, 12-32) and 2 negative items (nos. 11, 33). Potential responses were rated on a 5-point rating scale, ranging from strongly agree (1), agree (2), neither agree nor disagree (3), disagree (4), and strongly disagree (5), with scoring of 1-5 for positive items and inverse scoring for negative items. Possible scores for the total modified scale ranged from 33-165, with high scores meaning higher grief. Conversely, low scores meant lower grief. The criteria for interpretation (Kala, 2001: 44; Keawsiriwan, 2003: 28) were calculated from percentage of mean, and are presented as follows:

Percentages of mean	Interpretation
80.00 – 100	Higher grief
60.00 – 79.99	Rather high grief
40.00 – 59.99	Moderate grief
20.00 – 39.99	Less grief

Validity and Reliability of the PGS

Based on previous research into pregnancy loss, Toedter and others (1988: 435-449) developed this scale consisting of 104 items. Factor analysis by varimax rotation was used to establish the validity of the PGS. Using Cronbach's alpha

coefficient calculation, the internal consistency of the scale was .90. Items with corrected item-total correlations of 0.20 or less were removed. The remaining 84 items were analyzed into 3 factors--active grief (36 items), difficulty coping (32 items), and despair (16 items), with Cronbach's alpha coefficients of .95, .93, and .87 respectively. Potvin and others (1989: 29-45) reanalyzed this scale using factor analysis, resulting in a short version PGS of 33 items, which consisted of 11 items for each of the 3 factors. Using Cronbach's alpha coefficient calculation, the internal consistency of the total scale and each factor--active grief, difficulty coping, and despair--were .95, .92, .91, and .86, respectively.

In this study, content validity was evaluated by seven experts, including a linguistic expert, a psychologist, two instructors in psychiatric nursing, and three instructors in obstetric nursing. After correction and try-out with 30 expectant fathers whose wives had perinatal loss at Ramathibodi Hospital, the Cronbach's alpha coefficient was .94. After administration to 100 husbands whose wives had perinatal loss in the current study, the coefficient was .93.

3. The dyadic adjustment scale (DAS) (see Appendix G)

This questionnaires was developed by Spanier (1976: 15-28) to assess the quality of marriage and other similar dyads; the scale is designed for use with either married or unmarried cohabiting couples. The 32-item scale was classified into four subscales: dyadic consensus (13 items: nos. 1-3, 5, 7-15), dyadic satisfaction (10 items: nos. 16-23, 31-32), dyadic cohesion (5 items: nos. 24-28) and affectional expression (4 items: nos. 4, 6, 29, 30). Most of the responses were alternatives on a 6-point (0-5 score) rating scale, except for items 23 & 24 (5 points, 0-4 score), no. 31 (7 points, 0-6 score), and 29 & 30 (yes/no, 0-1 score). The possible range of scores was 0-151

The questionnaire was translated into Thai and modified by Vajjamai Sookkavanawat (B.E. 2541). Its content validity was tested by a linguistic expert and 40 postpartum mothers (Vajjamai Sookkavanawat, B.E. 2541: 48-53). According to the expert's recommendation, 3 original items were deleted because the meaning of two items was similar to others, and one item was not suitable for Thai culture. According to the samples' suggestions, another 2 items were also deleted because they were difficult to understand. As a result, the modified Thai version scale had only 27

items, consisting of 22 positive items (nos. 1-13, 16, 17, 20-25, 27) and 5 negative items (nos. 14, 15, 18, 19, 26). The 4 subscales consisted of 12 items for dyadic consensus (nos. 1-4, 6-13), 8 items for dyadic satisfaction (nos. 14-20, 27), 4 items for dyadic cohesion (nos. 21-24) and 3 items for affectional expression (nos. 5, 25, 26). Moreover, all of the alternatives were modified to a 5-point (1-5 scores) rating scale for ease of reply, according to the suggestion of Surud (1995 cited by Vajjamai Sookkavanawat, B.E. 2541: 48-53) who used this instrument in her research. For items nos. 1 – 13, the alternatives ranged from always agree (5), almost always agree (4), occasionally agree (3), almost always disagree (2), and always disagree (1). For items nos. 14 – 26, the alternatives ranged from all of the time (5), most of the time (4), often (3), occasionally (2), to never (1), with scores of 5 to 1 for positive items and inverse scoring for negative items. For item no. 27, the alternatives ranged from extremely unhappy (1), a little happy (2), moderate happy (3), very happy (4) and extremely happy (5). Possible scores for the total modified scale ranged from 27 to 135, with high scores meaning a good marital relationship. Conversely, low scores meant a poor marital relationship. The criteria for interpretation (Kala, 2001: 44; Keawsiriwan, 2003: 28), were calculated from the percentage of mean, and are presented as follows:

Percentages of mean	Interpretation
80.00 – 100	Good marital relationship
60.00 – 79.99	Rather good marital relationship
40.00 – 59.99	Moderate marital relationship
20.00 – 39.99	Poor marital relationship

Validity and Reliability of the DAS

Spanier (1976: 15-28) claimed that 3 other experts had evaluated his scale for content validity; however, he did not identify who they were. It also had criterion-related (concurrent) validity when it was administered to a married sample of 218 persons and a divorced sample of 94 persons. In addition, he also claimed that his scale possessed construct validity when compared with the Locke-Wallace Marital Adjustment Scale (1959), the most frequently used at that time. The correlation between these scales was .86 among married respondents, .88 among divorced

respondents, and .93 for the total sample (n = 312). The DAS has been widely used in marriage research since its publication (Spanier & Thompson, 1982: 731-738). However, factor analysis of the scale found only three components--dyadic consensus, dyadic satisfaction, and dyadic cohesion--were hypothesized as components of adjustment, and were found to exist. Afterward, Spanier & Thompson (1982: 731-738) restudied in a sample of 50 separated persons and 155 divorced persons, both male and female, to confirm the factor analysis; the result was the same as the earlier study.

The internal consistency of the original scale, using Cronbach's alpha coefficient calculation, was .96 for the total scale, .90 for dyadic consensus, .94 for dyadic satisfaction, .86 dyadic cohesion, and .73 for affectional expression for the subscales (Spanier, 1976: 15-28). In addition, the Cronbach's alpha coefficient for the total scale in another study was .91 (Spanier & Thompson, 1982: 731-738).

This scale was translated and modified into Thai by Vajjamai Sookkavanawat (B.E. 2541: 54-55), and the content validity was tested by one behavioral scientist, two social scientists, one pediatric nursing expert and two maternal and child nursing experts. After correction and try-out among 40 postpartum mothers, the Cronbach's alpha coefficient for the total scale was .93

In this study, the modified DAS was tried out among 30 expectant fathers whose wives had perinatal loss at Ramathibodi Hospital. The Cronbach's alpha coefficient was .94 for the total scale. After administration to 100 husbands whose wives terminated their pregnancies in the current study, the coefficient was .93

4. Paternal-Fetal Attachment Scale (PFA) (see Appendix H)

The Paternal-Fetal Attachment Scale (PFA) was adapted from the Maternal-Fetal Attachment Scale (MFA) developed by Cranley (1979). This 24-item scale is composed of five subscales that measure different aspects of the maternal-fetal relationship. These subscales include (1) differentiation of self from the fetus; (2) interaction with the fetus; (3) attributing characteristics and intentions to the fetus; (4) giving of self; and (5) role taking. After that, Weaver & Cranley (1983: 68) developed it for use with expectant fathers who had wives in their third trimester of pregnancy. Alternative responses were rated on a 5- point rating scale, ranging from definitely yes

(1), yes (2), uncertain (3), no (4), definitely no (5), with scores of 1-5 for positive items and inverse scoring for negative items.

The questionnaire was translated into Thai and modified by Nisarut Hoko (B.E. 2540). Its content validity was tested by a linguistic expert and 10 first-time fathers (Hoko, B.E. 2540: 35-37). As a result, the modified Thai version scale had 24 items, consisting of 23 positive items (nos.1-20, 22-24) and one negative item (nos. 21). The five subscales consisted of 5 items for interaction with the fetus (nos. 1, 7, 17, 19, 23), 4 items for differentiation of self from the fetus (nos. 3, 5, 10, 24), 5 items for giving of self (nos. 2, 11, 15, 21, 22), 6 items for attributing characteristics and intentions to the fetus (nos. 6, 9, 12, 14, 16, 20), and 4 items for role-taking (nos. 4, 8, 13, 18). Alternative responses were rated on a 5- point rating scale, ranging from (never = 1, rarely = 2, sometimes = 3, frequently = 4, almost always = 5), with scores of 1-5 for positive items and inverse scoring for negative items. Possible scores for the total modified scale ranged from 24-120, with high scores meaning good paternal-fetal attachment. Conversely, low scores meant poor paternal-fetal attachment. The criteria for interpretation (Kala, 2001: 44; Keawsiriwan, 2003: 28) were calculated from the percentage of mean, as follows:

Percentages of mean	Interpretation
80.00 – 100	Good paternal-fetal attachment
60.00 – 79.99	Rather good paternal-fetal attachment
40.00 – 59.99	Moderate paternal-fetal attachment
20.00 – 39.99	Poor paternal-fetal attachment

Validity and Reliability of the PFA

Cranley (1981: 281-284) tested the internal consistency of the original scale using Cronbach's alpha coefficient calculation, and the results showed .85 for the total scale, .62 for differentiation of self from the fetus, .68 for interaction with the fetus, .67 for attributing characteristics and intentions to the fetus, .52 for giving of self, and .73 for role taking subscales. Then, Weaver and Cranley (1983: 69) demonstrated a Cronbach's coefficient of reliability of .70.

This scale was translated and modified into Thai by Nisarut Hoko (B.E. 2540: 36-37). After correction and try-out among 20 first-time fathers, the Cronbach's alpha coefficient of the total scale was .92.

In this study, the modified PFA was tried out among 30 expectant fathers whose wives had perinatal loss at Ramathibodi Hospital. The Cronbach's alpha coefficient was .91 for the total scale. After administration to 100 expectant fathers whose wives had perinatal loss in the current study, the coefficient was .92

5. The Jalowiec coping Scale (JCS) (see Appendix I)

The JCS used in this study was the revised JCS from 1988 (Jalowiec, 1988 cited by Waltz, & Strickland, 1988: 287-308). The original JCS was developed by Jalowiec for her Master's Thesis study in 1977. It was developed based on Lazarus' conceptual framework into scale for determining how people cope with various stressors in their lives. This instrument consisted of 40 items and two subscales: problem-oriented coping strategies--try to deal with the stressful situation itself (15 items), and affective-oriented strategies--try to handle the distressing emotions evoked by the situation (25 items). In 1988, Jalowiec revised this instrument using the Lisrel confirmatory analysis method and deleted 4 items, leaving a remainder of 36 items, which were classified into three subscales: confrontive coping strategies, which measures the extent to which persons adopt a problem-solving approach (13 items); emotive coping, which indicates that a person deals with problems emotionally (9 items), and palliative coping, which indicates that a person tends to deal with problems in a passive way (14 items).

In Thailand, Nitaya Suthayakorn (B.E. 2531) translated the original JCS into the Thai language. After being validated by experts, it was used for measuring coping in 30 relatives of hospitalized stroke patients and the alpha reliability coefficient was .88 for the total scale. Surang Prungdech (B.E. 2533) used the revised 36-item JCS to study 60 hypertensive patients and found that the alpha reliability coefficient was .84.

In this study, the researcher used the JCS translated by Surang Prungdech (B.E. 2533) to measure the coping strategies expectant father's used to manage their grief from perinatal loss. The JCS on a 5-point Likert scale (1 = never, 2 = rarely, 3 = sometimes, 4 = frequently, 5 = almost always). Possible total scores ranged from 36-180. Possible raw scores of three subscales are as follows: confrontive coping, 13-65;

emotive coping, 9-45; and palliative coping, 14-70. High scores meant good coping strategies, while low scores meant poor coping strategies. The criteria for interpretation (Kala, 2001: 44; Keawsiriwan, 2003: 28) were calculated from percentage of mean, as follows:

Percentages of mean	Interpretation
80.00 – 100	Good coping strategies
60.00 – 79.99	Rather good coping strategies
40.00 – 59.99	Moderate coping strategies
20.00 – 39.99	Poor coping strategies

Content validity and reliability

The content validity of the JCS was measured by the agreement of 20 volunteer judges, composed of individuals familiar with aspects of behavioral research on stress and illness. Overall agreement on classifying the 40 items was 85%. Agreement on the problem-oriented items was 88%, and on the affective-oriented items 82% (Jalowiec & Power, 1981: 11). In 1984, Jalowiec first conducted a study of 141 subjects to obtain a preliminary assessment of the construct validity of the JCS. She found that a two-factor solution failed to support the validity of dichotomous conceptualization of the coping items as problem-oriented versus affective-oriented. Therefore, in 1988, she conducted a study to assess the construct validity of the JCS on a large sample of 1400 subjects. The sample consisted of four types of subjects: patients (790), nurses (353), family members of patients (133), and graduate students (124). The results from Lisrel confirmatory analysis found that 4 items--crying, drinking, taking drugs, and medication--had a factor loading of less than .25. Therefore, these 4 items were deleted, leaving a remaining 36 items (Jalowiec, 1988 cited by Waltz, & Strickland, 1988: 287-308). The reliability of the original JCS was studied in 28 subjects from a general population using the two-week test-retest method. The Spearman's rank ordering of the test-retest data yielded a significant ($p < .001$) reliability coefficient of .79 for total coping score, .85 for problem-oriented scores, and .86 for affective scores (Jalowiec, et al., 1984: 158). Langner used this tool to study 30 subjects at a one-month retest interval and found similarly significant ($p < .001$) reliability coefficients: .78 for total scores, .84 for problem, and .83 for affective (Langner, 1983 cited by

Jalowiec, et al., 1984: 158). Jalowiec and Powers (1981 cited by Jalowiec, et al., 1984: 158) used this instrument to study 141 samples, hypertensive and emergency room patients, and found that the coefficient alpha was .86. For the revised JCS (1988) reliability was assessed using 1400 subjects, by computing the Cronbach's alpha coefficient. The results revealed a Cronbach's alpha coefficient of .95 for the total, .85 for confrontive coping, .70 for emotive coping, and .75 for palliative coping (Jalowiec, 1988 cited by Waltz, & Strickland, 1988: 287-308).

The content validity of the JCS Thai version was tested by 2 specialists in nursing. Nitaya Sutayakorn (B.E. 2531: 34) tried out the reliability of the instrument among 20 patients with cerebrovascular accident; the Cronbach's alpha coefficient was .88. After that, Surang Prungdeah (2533: 32) tried out the reliability of the instrument among 20 hypertensive patients; the Cronbach's alpha coefficient was .77. In this study, the Cronbach's alpha coefficient was .74 when tried out among 30 expectant fathers, and .75 when conducted with the 100 expectant fathers whose wives had perinatal loss.

Protection of Human subjects (see appendix J)

This study was reviewed and data collection allowed by the Ethical Clearance Committee on Human Rights Related to Research Involving Human Subjects of the Faculty of Medicine, Ramathibodi Hospital, Mahidol University. Potential participants were informed of the purpose of the study and their right to decline or withdraw from the study at any time. Their names were not attached to the data; a code number was used on the questionnaires instead. There were no known risks for the participants in this study. There was no cost for, nor was there any payment to, the participants in this study.

Data collection

The data were collected by the researcher. By submission of a formal letter from the Faculty of Graduate Studies, the researcher contacted the Dean of the Faculty of Medicine, Ramathibodi Hospital to seek permission. The ethical issue of the research project was approved by the Ethical Clearance Committee on Human Rights Related to Research Involving Human Subjects of the Faculty of Medicine,

Ramathibodi Hospital, Mahidol University. The procedures for data collection were as follows:

1. The researcher contacted the head nurse of the Obstetrics and Gynecology Department and the head nurse of the Complicated Obstetrics Ward to ask for their cooperation in collecting data.

2. Data were collected at the Complicated Obstetrics Ward, Ramathibodi Hospital, five days per week. The researcher surveyed a list of expectant fathers whose wives had experienced perinatal loss and selected eligible samples from the medical records according to the inclusion criteria.

3. The rapport between the researcher and the samples was established during the researcher's introduction. The samples were informed of the purpose of the study, the assurance of confidentiality, and their right to participate or withdraw from the study. If they agreed to participate in the study, they were asked to sign the informed consent.

4. The five-part questionnaire was provided to the samples. How to complete the questionnaires in series (parts I, II, III, IV, and V, respectively), to minimize the test effects, was explained. Then, the researcher allowed the literate participants to do it by themselves.

5. The questionnaires were checked for completeness when they were returned to the researcher. If some items were not completed, the study samples would be asked for further completion according to their willingness to do so. The researcher thanked them for their cooperation afterwards.

6. All data were analyzed statistically by coding each dataset so that the analyzer would not know to whom the data belonged.

Data Analysis

The SPSS/FW (Statistical Package for the Social Sciences for Windows) version 11.5 was used for data analysis. The level of significance was set at .05. The steps of analysis were as follows:

1. The demographic data were analyzed using frequency, percentage, range, mean, and standard deviation.

2. The sum of marital relationship, paternal-fetal attachment, coping strategies, and expectant father's grief scores, including their subscales, were analyzed using range, mean, standard deviation, and percentage of mean.

3. Pearson's product moment was used to test correlations among the studied variables and the expectant fathers' grief scores. The criteria for interpretation correlation coefficients (Munro, 1997: 235) are presented, as follows:

±0.70 - ±1	high
±0.50- ±0.69	moderate
±0.00 - ±0.49	low

4. Stepwise multiple regression was conducted to investigate the predictors and their predictive power for the grief of expectant fathers whose wives suffered perinatal loss.

CHAPTER IV
RESULTS

The results of this study are presented in this chapter, both in terms of descriptive statistics and statistical analysis. The results of data analysis are presented in 6 parts, as follows: 1) sample characteristics, 2) marital relationship, 3) paternal-fetal attachment, 4) coping strategies, 5) expectant father's grief response to perinatal loss, and 6) hypothesis testing.

Sample characteristics

Personal characteristics

The sample in this study consisted of 100 expectant fathers whose wives suffered perinatal loss. The ages of the subjects ranged from 22-50 years (M = 34.94, S.D. = 6.231). The majority of them (34%) were in the age group 31-35 years. The majority of the subjects (41%) had finished a Bachelor's degree, followed by senior high school, junior high school, primary school, certificate/diploma, and higher than bachelor degree groups (16, 14, 14, 8, and 7 percentage respectively). Almost all of the subjects were Buddhist (97%). The great majority of subjects (97%) lived with their wives. More than half of the subjects were employees (55%). The family income of the majority of subjects ranged from 10,001-20,000 Baht/month (mean = 31,126.70, median = 25,000, mode = 30,000), as shown in Table I.

Table I. Descriptive Statistics of Personal Characteristics of the Samples (n = 100)

Characteristics	Percent	Characteristics	Percent
Expectant father's age (years)		**Education level**	
21-25	5	Primary school	14
26-30	20	Junior high school	14
31-35	34	Senior high school	16
36-40	23	Certificate/Diploma	8
41-45	13	Bachelor degree	41
46-50	5	Higher than bachelor degree	7
Range = 22–50;M= 34.94; S.D.=6.231			

Table I. Descriptive Statistics of Personal Characteristics of the Samples (n = 100) (continued)

Characteristics	Percent	Characteristics	Percent
Religion		**Marital Status**	
Buddhist	97	Living with wife	97
Christian	2	Not living with wife	3
Islam	1		
Family incomes (Baht/month)		**Occupation**	
≤ 5,000	2	No occupation	2
5,001-10,000	17	Employee	55
10,001-20,000	26	Commerce and private business	21
20,001-30,000	25	Government office and enterprise	22
30,001-40,000	11		
40,001-50,000	12		
≥ 50,001	7		
Range = 0-250,000; M =31,126.70; S.D. = 33,454.8; median = 25,000; mode =30,000			

Obstetrical characteristics

Regarding obstetric history, 40% were experiencing their 2nd pregnancy. The gestational ages of the subjects ranged from 7-40 (M = 15.65, S.D. =7.405) and the majority of them (61%) were first trimester pregnancies. The types of perinatal loss for this time included dead embryo (28%), blighted ovum (27%), induced abortion due to fetal abnormality (19%), spontaneous abortion (13%), dead fetus *in utero*/stillbirth (12%), and ectopic pregnancy (1%). Most of the subjects (97%) perceived that their wives was pregnant before the perinatal loss, 71% with no fetal movement before perinatal loss, 67% that your wife underwent dilatation and curettage after perinatal loss, and 87% for not seeing the dead fetus after the perinatal loss. Most of them (70%) had no history of perinatal loss, while 30% had a history perinatal loss. However, the causes of previous perinatal loss were spontaneous abortion (19%), induced abortion (6%), dead fetus *in utero*/stillbirth (3%), death after loss (2%), and Other (2%). Most of the subjects (54%) had no living child, 90% did not have enough children, 87% had never had infertility counselling, and 86% had intended to have this pregnancy (see Table II).

Table II. Descriptive Statistics of Obstetric Characteristics of the Samples (n = 100)

Characteristics	Percent	Characteristics	Percent
Number of pregnancy		**Perceived your wife was pregnant before perinatal loss**	
1st	38	Yes	97
2nd	40	No	3
3rd	15	**Fetal movement before perinatal loss**	
4th	7	Yes	29
Gestational age at time of perinatal loss (weeks)		No	71
1-14 (first trimester)	61	**Your wife underwent dilatation and curettage after perinatal loss**	
15-28 (second trimester)	31	Yes	67
29-42 (third trimester)	8	No	33
Range =7-40; M = 15.65; S.D. =7.405			
Type of perinatal loss (this time)		**Saw the dead fetus after perinatal loss**	
Dead embryo	28	Yes	13
Blighted ovum	27	No	87
Induced abortion due to fetal abnormality	19		
Spontaneous abortion	13		
Dead fetus *in utero*/stillbirth	12	**Number of living children**	
Ectopic pregnancy	1	**No children**	54
History of perinatal loss		Have children	46
Yes	30	1 children	40
No	70	2 children	5
Cause of previous perinatal loss*		3 children	1
Spontaneous abortion	19		
Induced abortion	6	**Have enough children**	
Dead fetus *in utero*/Stillbirth	3	Enough	10
Dead after birth	2	Not enough	90
Other	2		
Infertility counseling		**Intended this pregnancy**	
Ever	13	Intentional	86
Never	87	Unintentional	14

* Had more than one cause of previous perinatal loss

Marital relationship

The total marital relationship scores of the subjects ranged from 69-133 with a mean score of 105.22, standard deviation of 14.830, skewness of –0.271, and percentage of mean 77.94, which means that the marital relationship of the studied samples was rather good. The percentage means for each subscale were ranged as follows: dyadic satisfaction (79.63%), dyadic consensus (78.67%), affectional expression (75.33%), and dyadic cohesion (74.35%), which means that the subjects

had rather high levels of dyadic satisfaction, dyadic consensus, affectional expression, and dyadic cohesion (see Table III)

Table III. Range, Mean, Standard Deviation, Skewness, and Percentage Means of the Scores for Marital Relationship by Total and Subscales (n = 100)

Marital relationship	Possible range	Actual range	Mean	Standard deviation	Skew ness	% of mean
Dyadic satisfaction	8-40	21-40	31.85	4.598	-0.209	79.63
Dyadic consensus	12-60	28-60	47.20	7.636	-0.262	78.67
Affectional expression	3-15	6-15	11.30	1.931	-0.067	75.33
Dyadic cohesion	4-20	8-20	14.87	2.939	0.018	74.35
Overall	**27-135**	**69-133**	**105.22**	**14.830**	**-0.271**	**77.94**

Paternal-fetal attachment

The total scores for paternal-fetal attachment of the samples ranged from 32-119, with a mean score of 81.70, standard deviation of 19.35, skewness of –0.281, and percentage of mean 68.08, which means that the paternal-fetal attachment of the studied samples was rather good.

The percentages of mean for each subscale were ranged as follows: giving of self (78.64%), differentiation of self from fetus (77.25%), role-taking (64.70%), interaction with the fetus (62.28%), and attributing characteristics and intentions to the fetus (60.27%). This means that the samples had rather high giving of self, differentiation of self from fetus, role-taking, interaction with the fetus, and attributing characteristics and intentions to the fetus (see Table IV).

Table IV. Range, Mean, Standard Deviation, Skewness, and Percentage Means of the Scores for Paternal-Fetal Attachment by Total and by Subscale (n = 100)

Paternal-fetal attachment	Possible range	Actual range	Mean	Standard deviation	Skew ness	% of mean
Giving of self	5-25	11-25	19.66	3.06	-0.502	78.64
Differentiation of self from the fetus	4-20	5-20	15.45	3.66	-0.767	77.25
Role taking	4-20	4-20	12.94	3.97	-0.289	64.70
Interaction with the fetus	5-25	5-25	15.57	5.77	-0.080	62.28
Attributing characteristics and intentions to the fetus	6-30	6-30	18.08	6.40	-0.146	60.27
Overall	**24-120**	**32-119**	**81.70**	**19.35**	**-0.281**	**68.08**

Coping strategies

The total coping strategy scores of the samples ranged from 82-141, with a mean score of 108.82, standard deviation of 11.566, skewness of 0.041, and percentage of mean 60.46, which means that the coping strategies of the studied samples was rather good. The percentages of mean for each subscale were ranged as follows: confrontive (73.51%), palliative (58.50%), and emotive (44.64%), which means that the samples had rather high confrontive, and moderate palliative and emotive levels (see Table V).

Table V. Range, Mean, Standard Deviation, and Percentage Means of the Scores for Coping Strategies Classified by Total and by Subscale (n = 100)

Coping strategies	Possible range	Actual range	Mean	Standard deviation	Skew ness	% of mean
Confrontive	13-65	26-60	47.78	6.749	-0.536	73.51
Palliative	14-70	31-55	40.95	5.070	0.406	58.50
Emotive	9-45	11-33	20.09	4.991	0.556	44.64
Overall	**36-180**	**82-141**	**108.82**	**11.566**	**0.041**	**60.46**

Expectant father's grief response to perinatal loss

The total expectant father's grief response scores of the samples ranged from 35-125 with a mean score of 82.33, standard deviation of 18.543, skewness of -0.010, and percentage of mean 49.90, which means that the paternal grief response of the studied samples was moderate. The percentages of mean for each subscale were ranged as follows: active grief (63.87%), difficulty coping (43.18%), and despair (42.64%), which means that the samples had rather high active grief, and moderate difficulty coping and despair levels (see Table VI).

Table VI. Range, Mean, Standard Deviation, and Percentage Means for the Scores of Expectant Fathers' Grief Response by Total and by Subscale (n = 100)

Expectant father's grief response	Possible range	Actual range	Mean	Standard deviation	Skew ness	% of mean
Active grief	11-55	13-53	35.13	7.602	-0.089	63.87
Difficulty coping	11-55	11-39	23.75	6.374	0.117	43.18
Despair	11-55	11-40	23.45	6.920	0.269	42.64
Overall	**33-165**	**35-125**	**82.33**	**18.543**	**-0.010**	**49.90**

Hypothesis testing

Before multiple regression analysis was performed, the assumptions related to regression analysis were examined.

1. Assumptions concerning residual (e):

1.1 Normal distribution

Using the Kolmogorov-Smirnov goodness-of-fit test to test the normal distribution of each variable, the scores for expectant father's age, marital relationship, paternal-fetal attachment, coping strategies and expectant father's grief response were $p = .448, .703, .923, .920$, respectively, $p > .05$, while gestational age at time of perinatal loss was $p = .001$, $p < .05$.

"If the relationships are linear and the dependent variable is normally distributed for each value of the independent variable, then the distribution of the residuals should be approximately normal. This can be assessed by using a histogram of the standardized residuals" (Munro, 2001: 270). In this analysis, the histogram showed a normal curve interposed on the standardized residuals. On the total perinatal grief scale score, the residuals were fairly normally distributed. The regression variate was found to meet the assumption of normality (See Appendix M).

1.2 Homoscedasticity

Homoscedasticity was tested by plotting the residuals against the predicted values and against the independent variables. For the assumption to be supported, when the standardized predictor values are plotted against the observed data values, a straight line would be formed from the lower-left corner to the upper-right corner. The plotted values fall close to the line in a normal probability plot. According to the testing, the data from the study fulfilled this assumption (see Appendix M).

1.3 Autocorrelations

The autocorrelations were tested by Dubin-Watson test. Thus, a Dubin-Watson value approaching 2 indicated the residual independent (Kanlaya Vanichbuncha, B.E. 2546: 340). In this study, the regression model revealed a Dubin-Watson test statistic of 2.019, indicating no autocorrelation (see Appendix M).

2. Multicollinearity

To detect multicollinearity, a correlation matrix was used to check for large correlation coefficients > .80 or .90 between independent variables (Munro, 1997). In

addition, the tolerance diagnostic procedure was performed. Tolerance is "the proportion of the variance in an independent variable that is not accounted for by the other independent variable" (Munro, 1997: 268). A tolerance value of zero indicates perfect collinearity. In addition, "variance inflation factors" (VIFs) were used to detect any multicollinearity problem. The VIFs are the reciprocal of tolerance (Munro, 1997). A small VIF value indicates a smaller collinearity problem. Stevens (1996) suggested that, if the VIF exceeds 10, it should be of concern. In this analysis, no correlation coefficient between independent variables was > .80 or .90. Also, the tolerance values of the independent variables ranged from .987 - 1.000, and the VIF values ranged from 1.000 - 1.013; therefore, multicollinearity among the predictors was not a problem for the study (see Appendix M)

In conclusion, there were no violations of the assumptions.

Hypothesis 1: There are relationships between the selected factors i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies and expectant father's grief response to perinatal loss.

Correlation of the studied variables

The data were analyzed by Pearson's product moment correlation coefficient. The results revealed that two factors correlated with expectant father's grief response--paternal-fetal attachment and expectant father's age. Paternal-fetal attachment had a significantly low positive correlation with expectant father's grief ($r = .287$, $p < .01$), and expectant father's age ($r = -.233$, $p < .05$) had a statistical significantly low negative correlation with expectant father's grief. The finding revealed that gestational age at time of perinatal loss ($r = .181$, $p > .05$), marital relationship ($r = .081$, $p > .05$), and coping strategies ($r = .103$, $p > .05$) had no statistically significant correlation with expectant father's grief. The correlation matrixes among the studied variables are shown in Table VII

Table VII. Pearson's Product Moment Correlation Coefficients among the Studied Variables in the Form of a Correlation Matrix (n=100)

Variable	1	2	3	4	5	6
1.Expectant father's age	1.00					
2.Gestational age at time of perinatal loss	-.022	1.00				
3.Marital relationship	-.111	.135	1.00			
4.Paternal-fetal attachment	-.113	.353**	.297**	1.00		
5.Coping strategies	-.184	.184	.156	.207*	1.00	
6.Expectant father's grief response	-.233*	.181	.081	.287**	.103	1.00

**p<.01, *p< .05

Hypothesis 2: Selected factors i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies can predict expectant father's grief response to perinatal loss.

Predictors of expectant father's grief response to perinatal loss

Stepwise multiple regression was used to answer this hypothesis; two steps were performed.

In step 1, the first predictor selected into the equation was paternal-fetal attachment due to its strong correlation with expectant father's grief response to perinatal loss. The results showed that paternal-fetal attachment accounted for 8.2% of the variance in grief response to perinatal loss ($F_{(1, 98)} = 8.812$, $p < .01$)

In step 2, the predictor added to the equation was expectant father's age. It was found that expectant father's age accounted for an additional 4.1% of the variance ($F_{(1, 97)} = 4.523$, $p < .05$)

Therefore, by stepwise multiple regression, paternal-fetal attachment and expectant father's age provided the best prediction of expectant father's grief response to perinatal loss, and could explain 12.3 % of variance in expectant father's grief response to perinatal loss ($F_{(2, 97)} = 6.826$, $p < .01$). Paternal-fetal attachment was the strongest predictor, followed by expectant father's age (ß = .287, -.203, respectively) (see Table VIII).

Table VIII. Predictability of the Independent Variables for Expectant Father's Grief Response to Perinatal Loss using Stepwise Multiple Regression Analysis (n = 100)

Variable	R^2	R^2 change	F change	beta	t	p
Paternal-fetal attachment	0.082	0.082	8.812	0.287	2.968	0.004
Expectant father's age	0.123	0.041	4.523	-0.203	-2.127	0.036

Constant (a) = 82.798; Overall $F_{(2,97)} = 6.826$, $p < .01$

CHAPTER V
DISCUSSION

This a descriptive correlational study design aimed to examine the relationships and predictability of selected factors, i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and expectant father's grief response to perinatal loss. Discussion of the research results is presented in the following order: 1) characteristics of the samples 2) marital relationship 3) paternal-fetal attachment 4) coping strategies 5) expectant father's grief response, and 6) the relationship and predictability of expectant father's age, gestational period at time of perinatal loss, marital relationship, paternal-fetal attachment, and coping strategies, and expectant father's grief response to perinatal loss.

Characteristics of the Samples

The ages of the 100 expectant fathers whose wives had perinatal loss ranged from 22-50 years, with an average of 34.94 years, which was adult. This finding was consistent with previous studies (Goldbach, Dunn, Toedter & Lasker, 1991: 464). Most of the subjects (48%) had Bachelor and higher, which shown the subjects could find a resource for good coping the problem. All most all of the subjects were Buddhist (97%), which related to Thai culture for releasing the grief. The great majority of subjects (97%) lived with their wives, so they could support for each other. The majority of the subjects (55%) were employees and the average income was 31,126.70 Baht/month. This was a rather high income, which might reflect the readiness of the family to have a child.

Considering the obstetric characteristics, 40% of the subjects were having their second pregnancy. The gestational ages of the subjects ranged from 7 to 40 (M = 15.65, S.D. = 7.405) and the majority (61%) were first trimester pregnancies, which

was similar to several other studies (Nguychareon, 1998: 52, Tunlert, 2001: 41, Jultanmas, 2002: 67). The types of perinatal loss in the current study included dead embryo (28%), blighted ovum (27%), induced abortion due to fetal abnormality (19%), spontaneous abortion (13%), dead fetus *in utero*/stillbirth (12%) and ectopic pregnancy (1%). Most of the subjects (97%) perceived the wife was pregnant before perinatal loss It's mean that all had set up the goal already, 71% perceived no fetal movement hence the subjects no attachment and low grief response, for 67% the wife received dilatation and curettage after the perinatal loss means that expectant father more concern his wife treatment than his grief, and 87% did not see the dead fetus after the perinatal loss which his grief had not complete yet. Most (70%) no had history of perinatal loss, while 30% had means that the subjects had not coping experience of perinatal loss. However, the causes of previous perinatal loss: spontaneous abortion (19%), induced abortion (6%), dead fetus *in utero*/stillbirth (3%), dead after birth (2%), and other (2%). Most of the subjects (54%) had no children; 90% not enough children; 87% never had infertility counseling; and 86% intended to have a pregnancy, which all factors means that the subjects should have more grief.

Marital relationship

This research found that the subjects had marital relationship scores of a rather good level (M = 89.56, S.D. = 11.49, mean percentage = 66.34%) caused by the subjects 38% is primigravida, 54% no children, and 90% not enough children. This presented that the majority of respondents perceived that they and their wives had closed marital relationship. This finding was similar to several studies using the same instrument even though conducted for maternal grief (Benchasiriluck, 2002, Jultanmas, 2002, Keawsiriwan, 2003). It might be because the age of samples range were 22-50 years old, which is considered an adult period, with full maturity in both physical and psychosocial development. It might refer to their readiness to live together that results in an increased ability for adjustment and coping with any loss (May, 1994: 637-638). According to Eaton (1978: 423-440), couples with good relationships are emotionally stable, and able to face and adjust to various incidents in

their lives. Moreover, the quality of the parental relationship is a significant factor in their dealing with perinatal loss and it effects the coping mechanisms of the father and mother (Toedter, et al., 1988 cited by Wallerstedt, C. & Higgins, P., 1996: 391).

Overall, the mean percentage scores for all aspects were at a rather good level. The highest mean percentage scores presented in the dyadic satisfaction aspect (79.63%), followed by dyadic consensus (78.67%), affectional expression (75.33%) and dyadic cohesion (74.35%), respectively. The details are discussed below:

1. **Dyadic satisfaction.** The respondents' marital relationships in this aspect were at a rather good level and the mean percentage was the highest among the four aspects (79.63%). An explanation would be related to 97% of the subjects living with their wives so they support each other, the age of samples range were 22-50 years old, which is considered an adult period, with full maturity in both physical and psychosocial development, and socioeconomic is good As shown in Table X (see appendix K), the highest mean percentages were for the item "Do you ever regret that you married (or lived together)?" (93.4%), and item "How often do you discuss or have you considered divorce, separation, or terminating you relationship?" (93.2%). The lowest mean percentage was for the item "Do you confide in your mate?" (60.8%).

2. **Dyadic consensus.** The findings showed that the respondents' marital relationships for this aspect were at a rather good level, and the mean percentage followed that for dyadic satisfaction (78.67%). This result indicated that the respondents and their spouses had consistent opinions and understood each other because all of the subjects are the adults, 97% were Buddhist, and according to Thai culture in taking care of the parents. They also did not have conflict, or were not bad with their spouses, which would lead to quarrels. As shown in Table X, the highest mean percentages were for the item "ways of dealing with parents or in-laws" (85.2%), and item "matters of recreation" (83%). The lowest mean percentage was for the item "friends" (71.6%).

3. **Affectional expression.** The respondents' marital relationships for this aspect were at a rather good level (75.33%). This result indicated that the respondents and their wives had affection, understanding, sympathy and empathy, with give-and-take because of Thai culture should not express towards the public. As shown in Table X, the highest mean percentage was for the item demonstrations of affection, "How often do you and your mate get on each other's nerves"? (78.6%), and item "sexual relations" (77.4%). The lowest mean percentage was for the item "not showing love" (70%).

4. **Dyadic cohesion.** The respondents' marital relationships for this aspect were at a rather good level (74.35%) because of all of subjects are male and leadership according to Thai culture, and high education. As shown in Table X, the highest mean percentages were for the item "Laugh together" (79.6%) and item "Having a stimulating exchange of ideas" (77%). The lowest mean percentage was for the item "calmly discussing something" (64.6%).

Paternal-fetal attachment

This research found that the subjects had paternal-fetal attachment at a rather good level (M = 81.70, S.D. = 19.35, mean % = 68.08%). The results were consistent with several research studies with other fathers (Mercer, Ferketich, DeJoseph & Sollid, 1988: 88; Ferketich & Mercer, 1995: 35; Hoko, B.E., 2540: 50). The strength of the marital relationship influences the father's beginning relationship more faster than his unborn child (Weaver & Cranley, 1983: 68). The great majority of samples (97%) lived with their wives, 54% no children, 86% intended this pregnancy these factors reflected to paternal – fetal attachment. Moreover, the subjects' ages ranged from 22-50 years, with an average age of 34.94 years, and high income affected to readiness of a child.

The mean percentage scores for all aspects were at a rather good level. The highest to lowest mean percentages for each subscale were as follows: giving of self (78.64%), differentiation of self from the fetus (77.25%), role taking (64.70%),

interaction with the fetus (62.28%), and attributing characteristics and intentions to the fetus (60.27%). The details are discussed below:

1. **Giving of self.** The respondents had rather good levels of paternal-fetal attachment for this aspect, and the mean percentage followed that paternal-fetal attachment (78.64%). Because of all of them are males and having role to protect in their family, in adult period, 38% primigravida, 54% no children, 86% intended this pregnancy, 90% not enough children, and high income, which affect to readiness to have a child. As shown in Table XI, the highest mean percentage was for the item "I encourage my partner to eat meat & vegetables to be sure my baby gets a good diet" (88.8%), and item "I encourage my wife to give up doing certain things because I want to help my baby" (88%). The lowest mean percentage was for the item "I feel all the trouble of being pregnant is worth it" (56.2%).

2. Differentiation of self from fetus. The respondents' paternal-fetal attachment for this aspect was at a rather good level, with a mean percentage of 77.25%. Because of the subjects 54% had no children, 86% intended this pregnancy, 90% not enough children. Table XI shows that the highest mean percentages were for the item "I feel that the baby is part of my life" (92.4%), and item "I'm really looking forward to seeing what the baby looks like" (77.6%). The lowest mean percentage was for the item "I enjoy watching my wife's tummy jiggle as the baby kicks inside" (67.8%).

3. **Role taking.** The respondents' paternal-fetal attachment for this aspect was at a rather good level, with a mean percentage of 64.70%. Because of the subjects 54% had no children, and 71% no fetal movement. Table XI shows that the highest mean percentages were for the item "I try to picture what the baby will look like" (81.4%), and item "I imagine myself taking care of the baby (69.6%). The lowest mean percentage for the item "I can hardly wait to hold the baby" (47%).

4. **Interaction with the fetus.** The respondents' paternal-fetal attachment for this aspect was at a rather good level, with a mean percentage of 62.28%. Because of it is 1st trimester, 71% no fetal movement and also 38% is primigravida. Table XI

shows that the highest mean percentage was for the item "I grasp my baby's foot through my wife's tummy to move it around" (69.6%), and item "I refer to the baby by a nickname" (62.2%). The lowest mean percentage for the item "I poke the baby to get him/her to poke back" (58.8%).

5. **Attributing characteristics and intentions to the fetus.** The respondents' paternal-fetal attachment for this aspect was at a rather good level, with a mean percentage of 60.27%. Because of it is 1st trimester, 71% no fetal movement and also 38% is primigravida. As shown in Table XI, the highest mean percentage was for the item "I wonder if the baby feels cramped in there" (74.6%), and item "I wonder if the baby thinks and feels 'things' inside my wife (67.2%). The lowest mean percentage was for the item "I can tell when the baby has hiccoughs" (44.4%).

Coping strategies

In this study, most of the subjects used coping strategies at a rather good level (M = 108.82, SD = 11.566 mean percentage = 60.46). Because of age and education. It might be because the age of samples range were 22-50 years old, which is considered an adult period, with full maturity in both physical and psychosocial development and 48% of the subjects graduate Bachelor degree program and higher; effected to management for adaptation and coping. The results were consistent with several research studies in other patients (Surang Preungdech, B.E. 2533: 40, Tunlert, 2001: 53, Prapapornsuk, 2001: 60).

The mean percentage scores for confrontive coping behavior (73.51%) were at a rather good level, and palliative coping behavior (58.50%) and emotive coping behavior (44.64%) were at moderate levels. The details are discussed below:

1. **Confrontive coping.** The finding indicated that the respondents had rather good level coping strategies for this aspect, and the mean percentage followed that of coping strategies (73.51%). Majority of subjects 93% use confrontive coping strategies (see table XIII in Appendix L). In this study, the reason for the samples using confrontive coping behaviors is attributable to the average sample age of 34.94

years, which was adult; the subjects are male and high education. Many researchers said that confrontive coping was an effective strategy and necessary for coping (Sidle, et al., 1969 cited by Jalowiec & Powers, 1981: 10-15). Table XII shows that the highest mean percentages were for the item "maintain control" (85.6%), and item "seek purpose/meaning" (84.6%). The lowest mean percentage was for the item "get comfort/help from others" (45.6%).

2. **Palliative coping.** The respondents' coping strategies for this aspect were at a moderate level, with a mean percentage of 58.5%. All most all of the subjects were Buddha (97%), which for giveness is the core concept of Buddha. Table XII shows that the highest mean percentages were for the item "settle for next best thing" (82.8%), and item "acceptance" (81.2%). The lowest mean percentage was for the item "let others solve problem" (28.2%).

3. **Emotive coping.** The respondents' coping strategies for this aspect were at a moderate level, with a mean percentage of 44.64%. Because of the subjects are male, and high education. Table XII shows that the highest mean percentages were for the item "daydream" (60.4%), and item "worry" (59.6%). The lowest mean percentage was for the item "blame others" (30.6%).

Expectant fathers' grief response

The result of the study showed that the subjects had moderate grief responses, with scores ranging from 35-125 (M = 82.33, SD = 18.543 mean percentage = 49.90). Because of all of them are male plus Thai culture could not express the feeling of grief toward the public. Although the subjects had rather good paternal – fetal attachment, 86% intended this pregnancy, perinatal loss occurring in 1st trimester. The results were incongruent with several research studies of maternal grief (Nguycharoen, B.E. 2540: 62; Tunlert, 2001: 54; Jultanmas, 2002: 69; Wongwiggan, 2003: 39). However, the result was consistent with the study of Benchasiriluck (2002: 68).

Perinatal loss was shown to be an extremely difficult situation, and partners were crying and distressed, and not sure how to handle the situation. In additional,

they wanted to help their partners, but were concerned that their actions might make things worse. The intensity of men's grieving may be reflected by the extent to which the fetus seemed 'real' to them (Murphy, 1998: 330), While May (1982) suggested that for most of the pregnancy the man is in a 'not real not mine' phase and it is only in the later stages of the pregnancy that the baby becomes real to him. In addition, fathers are likely to be strongly affected by perinatal loss; they tend to experience a less intense and prolonged grief reaction than mothers (Brier, 2003). In general, after the miscarriage, fathers cry, talk about the loss, and get depressed to a lesser degree than their partners, and are usually able to return to their normal routines more quickly. As a result, a father sometimes questions why his partner continues to grieve for so long and with such intensity. When this incongruity occurs, the marriage can become strained; the woman may feel that her partner is not sufficiently caring, while the man may feel that his partner is overreacting and failing to appreciate what he does feel. Conflict, however, is avoidable for most couples. In fact, a fairly large percentage of couples reports feeling even closer after the miscarriage than they felt before.

The intensity of the reaction will vary according to the trimester of pregnancy in which the perinatal loss occurs, the parents' emotional attachment to the fetus, and the initial desire to be pregnant (Hardin & Urbanus, 1986: 23). Men presumably have a less intense attachment to the fetus and attempt to subdue their own feelings while maintaining a façade of strength to support their wives (Hardin & Urbanus, 1986: 27). When perinatal loss occurs, the mother's distress is usually independent of the gestational age of the fetus, whereas the intensity of the father's distress seems to depend a great deal on the duration of the pregnancy. A father's reaction also seems to depend on the degree of attachment he feels toward his partner, and the opportunities he has had to experience the pregnancy as a reality. Especially, a father is more likely to be distressed if he has seen the fetus during a sonogram and has felt fetal movement (Brier, 2003).

The mean percentage score for active grief (63.87%) was at rather good level, and the mean percentage scores for difficulty coping (43.18%) and despair (42.64%) were at moderate levels.

1. **Active grief.** The mean percentage score for active grief (63.87%) was at a rather high level, because the data collection time was within 2 days after perinatal loss. The first factor could also be called “normal grief”, since it incorporates questions regarding sadness, missing the baby, and crying for the baby. Because of the subjects 54% had no children, 86% intended this pregnancy, 90% not enough children, 61% were in the first trimester of pregnancy, 73% no history of perinatal loss, and had rather good marital relationships. As shown in Table IX, the highest mean percentages were for the item “I am grieving for the baby” (82.2%), and item “I feel depressed” (81%). The lowest mean percentage was for the item “I feel so lonely since he/she died” (44.6%). Moreover, Toedter, et al. (1988) found that 43% of the variance in the active grief factor was predicted by older gestational age, poorer marital quality, poorer overall physical health, and more pre-loss mental health symptomatology.

2. **Difficulty coping.** The mean percentage score for difficulty coping (43.18%) was at a moderate level. This factor included items suggesting difficulty in dealing with both activities and other people, and it may indicate more severe depression because of the impression that people with high scores for this factor are withdrawing from others and having trouble functioning. Because of the ages of the subjects ranged from 22-50 years, with an average of 34.94 years, which was adult, high education, economic good affect to social support, 61% were first trimester pregnancies and the subjects had rather good marital relationships. Table IX shows that the highest mean percentages were for the item “I find it hard to get along with certain people” (56.6%), and item “Sometimes I feel like I need a professional counselor to help me get my life back together again” (49.8%). The lowest mean percentage was for the item “It feels great to be alive” (27.2%). In addition, Toedter, et al. (1988) found that 52% of the variance in the Difficulty Coping factor was explained by more pre-loss mental health symptomatology, poorer overall physical health, poorer marital quality, older gestational age, and presence of living children.

3. **Despair.** The mean percentage score for despair (42.64%) was at a moderate level. These levels of “despair” suggest the potential for serious and long-lasting effects from the loss; with items such as “the best part of me died with the

baby", "I try to laugh but nothing seems funny anymore", and "It is safer not to love". This might be because the majority of the subjects (61%) were first trimester pregnancies and the subjects had rather good marital relationships. Table IX shows that the highest mean percentages were for the item "I feel physically ill when I think about the baby" (60.2%), and item "I feel guilty when I think about the baby" (58.4%). The lowest mean percentage was for the item "I take medicine for my nerves" (27.6%). Toedter, et al. (1988) found that 37% of the variance in the "despair" factor was explained by overall physical health, marital quality, gestational age, and age of mother.

Hypothesis testing

Hypothesis: there are relationships and predictability between the selected factors i.e. expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, coping strategies, and expectant father's grief response to perinatal loss.

Paternal-fetal attachment: this factor had a statistically significant positive correlation with expectant father's grief response ($r = .287$, $p < .01$) and could predict 8.2% of expectant grief's response ($r^2 = 0.82$, beta = 0.287, $t = 2.968$, $p < .01$). This indicated that the greater the paternal-fetal attachment, the higher the expectant father's grief response would be. The result of this study shows that 86% intended this pregnancy and 61% first trimester. When conception has occurred and the fetus is growing *in utero*, the parents' attachment increases as the pregnancy develops and the movements and heartbeat of the baby can be observed (Shapiro, 1993: 108). In addition, the male is likely to feel helpless as he watches his partner in physical and emotional pain: he may also feel that he cannot indulge his own emotions but must be strong for his partner's sake. Many males, culturally accustomed to keeping their feelings inside, have difficulty recognizing that the miscarriage is an event that evokes strong feelings of loss, and instead of acknowledging sadness, they may display other emotions, such as anger and resentment. Some males, in part because of their own inability to recognize their sorrow and in part because of the difficulty they experience

in seeing their partner grieve, act cheerful and try to cheer up their emotionally bereft partner. Other males feel responsible for taking care and protect their wives. Moreover, a man will work too hard for defending against the painful feelings evoked by the perinatal loss. Such preoccupations can cause friction and confusion if the woman expects a more direct expression of emotion from her partner (Shapiro, 1993: 118-119).

Expectant father's age: this factor had a statistically significantly low negative correlation with expectant father's grief response ($r = -.233$, $p < .05$) and could significantly explain/predict an additional 4.1% of expectant father's grief response ($r^2 = 0.123$, beta = -0.203, $t = -2.127$, $p < .05$). Therefore, younger fathers who experience perinatal loss have higher grief levels than older fathers. From this study find that all the subjects are over 20 years or "adult period", 54% no children, and 70% no history perinatal loss all those factors effect rearrangement perinatal loss well. This finding was incongruent with the study of Tunlert (2001: 56), who found that older women have higher grief levels than younger women, while Benchasiriluck (2002: 74) found that mother's age was not related to grief after perinatal loss. Patricia, et al. (1993: 865) stated that age plays a role in the recognition and reaction to loss. Steen (1998: 62) found that younger men and women suffered more intense grief, more symptoms, and were more prone to physical and mental illness than older men and women. Stirizinger, Robinson, Stewart & Ralevski (1999: 235-249) studied 224 women with miscarriage. They found that the younger women with multiple miscarriages showed more depression in the early period after miscarriage than the older women. In contrast, Peaguthes (1996: 39) found that teenage mothers might have less grief than middle-aged mothers because the younger women are not ready to have children. Toedter, Lasker & Alhadeff (1988: 435) found the significant predictors of grief were gestational age at time of loss and presence of living children, but maternal age was not predictive of the degree of grief. Benfield, et al. (1978: 171) reported that there was no relationship between maternal age and intensity of grief.

Other variables--marital relationship, gestational at time of loss, and coping strategies--that were not related to expectant father's grief response and could not predict expectant father's grief response to perinatal loss are discussed, as follows:

Marital relationship: the overall marital relationship was not related to expectant father's grief response to perinatal loss ($r = 0.081$, $p > .05$) and could not predict expectant father's grief response to it. This means that the marital relationship did not affect expectant father's grief response. The result of this study show that marital relationship is good and grief response is moderate so that this study was inconsistent with that of Toedter and Coworker (1988 cited by Zaccardi, Abbolt & Koziol-McLain, 1993: 803), which suggested that the poor marital relationship was significantly related to the severe grief. This would be the result for the level of overall marital relationship in the respondents who were at good and rather good levels (87%), whereas the subject respondents had a moderate overall grief level. As a result, there was no relation between these two variables.

Gestational age at time of perinatal loss: this factor was not related to expectant father's grief response to perinatal loss ($r = 0.181$, $p > .05$) and could not predict it. This means that gestational age was not associated with expectant father's grief response to perinatal loss. The result was incongruent with a previous study (Jultanmas, 2002). The explanation may be that about 61% had gestational ages ranging from 1-12 weeks, which was the first trimester of pregnancy, all of them are male, and 86% intended this pregnancy. Moreover, in this study, the respondents had moderate levels of grief. Consequently, there was no relation between gestational age and expectant father's grief response to perinatal loss. This result was incongruent with a previous study (Kirkley-Best, 1981 cited by Toedter, Lasker & Alhadeff, 1988: 439), which concluded that gestational age was the most important predictor of grief. In addition, Toedter, Lasker & Alhadeff (1988: 445) found that gestational age at time of loss was also consistent with Kirkley-Best's (1981) finding, in its strong positive relationship to grief ($r = 0.39$, $p \leq .001$). In addition, Leppert and Pahlha (1984 cited by Goldbach, Dunn, Toedter & Lasker, 1991: 462) found that the intensity of grief after loss was similar among women, regardless of the gestational age of the baby at

the time of loss. Interesting, these researchers concluded that the grief reactions of fathers seem to be related to the length of the pregnancy, with longer periods of gestation resulting in higher levels of grief, while Peppers and Knapp (1980 cited by Toedter, Lasker & Alhadeff, 1988: 439) found no significant difference in grief scores among women who had spontaneous abortions, stillbirths, and neonatal deaths.

Coping strategies: this factor was not related to expectant father's grief response to perinatal loss ($r = .103$, $p > .05$) and could not predict it. This means that coping strategies had no association with expectant father's grief response to perinatal loss. Because of age and education. It might be because the age of samples range were 22-50 years old, which is considered an adult period, with full maturity in both physical and psychosocial development and 48% of the subjects graduate Bachelor degree program and higher; effected to management for adaptation and coping. The result was incongruent with a previous study (Tunlert, 2001), while it was consistent with the study by Budsagorn Prapapornsuk (2001: 64). This may be explained by the observation that, when men experience perinatal loss it is life-threatening, and each individual uses a combination of coping strategies. In this study, the sample group, being men, used coping strategies ($M = 108.82$, S.D. = 11.566). and used more confrontive coping than emotional and palliative coping strategies. Placek et al. (1992) found that women in the general population tended to used emotion-focused coping (Lindqvist, Carlsson & Sjoden, 2000: 1405), while Pfost, et al. (1989) found that anger was related to emotion-focused coping, and that women used more emotive coping and expressed more anger than men (Chapman & Pepler, 1998: 232). In addition, women also experience more despair and anger / hostility after prenatal loss. Thus, women will feel sadness, missing the baby or crying. Potvin, Lasker & Toedter (1989: 31) suggested that despair had a potential for serious and long-lasting effects from loss.

The findings of the current study indicated that paternal-fetal attachment and expectant father's age could jointly explain 12.3% of the variance in expectant father's grief response. Meanwhile, by multiple regression analysis, gestational age at time of perinatal loss, marital relationship, and coping strategies were not found to be

predictors of expectant father's grief response. As a result, the research hypothesis was only partially supported which correlated Roy Adaptation Model.

CHAPTER VI
CONCLUSION

This a descriptive correlational study design to examined the relationship and predictability between selected factors--expectant father's age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, coping strategies--and expectant father's grief response to perinatal loss. In this chapter, the conclusion and recommendations are presented in terms of research conclusions, implications for nursing, recommendations, and the limitations of the study, as follows:

Research conclusion

This descriptive research to examined the relationship and predictability between selected factors--expectant father age, gestational age at time of perinatal loss, marital relationship, paternal-fetal attachment, coping strategies--and expectant father's grief response to perinatal loss. The Roy Adaptation Model was used to guide the research. The subjects were 100 expectant fathers whose wives had perinatal loss and were admitted to the high-risk ward of Ramathibodi Hospital, Bangkok, Thailand, from August to December 2004. The subjects were selected according to the inclusion criteria, i.e. had completed perinatal loss, which was investigated and diagnosed by a physician at any time during pregnancy; able to read, write or communicate in the Thai language; had no communication problems; and were willing to participate in the study.

After the researcher explained the objectives of the study and the subjects signed the consent form, the self-report instrument was administered to the subject. The five-part instrument consisted of 1) the demographic data form, which had been developed by the researcher, 2) the Perinatal Grief Scale developed by Potvin, et al. (1989) and translated into the Thai language by the researcher, 3) the Dyadic Adjustment Scale developed by Spanier (1976), which was translated into Thai and modified by Vajjamai Sookkavanawat (B. E. 2541), 4) the Paternal-Fetal Attachment

Scale, which was adapted from the Maternal-Fetal Attachment Scale developed by Cranley (1981) and was translated and modified into Thai by Nisarut Hoko (B.E. 2540), and 5) the Jalowiec Coping Scale developed by Jalowiec (1988) translated into Thai by Surang Prungdech (B. E. 2533). The Cronbach's alphas for coefficiency of reliability for the 100 samples in the Perinatal Grief Scale, Dyadic Adjustment Scale, Paternal-Fetal Attachment Scale, and Jalowiec Coping Scale were .93, .93, .92, and .75, respectively. SPSS/FW version 11.5 was used to perform the data analysis. The data were analyzed by pearson's product of moment coefficient and stepwise multiple regression.

The study revealed that the subject had moderate expectant father's grief response. The remainder were rather good--marital relationship, paternal-fetal attachment, and coping strategies. Paternal-fetal attachment had a significantly low positive correlation with expectant father's grief ($r = .287$, $p < .01$), and expectant father's age ($r = -.233$, $p < .05$) had a statistically significantly low negative correlation with expectant father's grief. Paternal-fetal attachment and expectant father's age were entered into a regression equation and could explain 12.3% of variance in the expectant father's grief response to perinatal loss.

Implications for nursing and recommendations

The results of the present study suggested several directions of care for the health profession, especially nursing practice, education, and research.

Nursing practice

1. From the result of this study, Nurses should be concerned in expectant father who suffering perinatal loss too not only mother.
2. Nurses more awareness paternal – fetal attachment and younger age group to well adapt with perinatal loss.
3. Nurse could give counseling to this group for better coping in perinatal loss.

Nursing education

1. The nurses' curriculum should be set up the expectant father's grief response to perinatal loss in Advanced Practice Nursing program.

Nursing research

1. A longitudinal design should be used to monitor the grief response from perinatal loss and to elucidate the types and causes of grief.
2. In collecting data about grief, the researcher should with in two or three months to adapt to the loss.
3. Other variables that can predict grief from perinatal loss should be explored.
4. Research design should be present in Hierarchy analyses form structure for better effectiveness result.

Limitations of the study

1. Because of the limitations in generalizability of the current study, further studies should be conducted using randomized sampling.
2. Because of the limitations in generalizability of the current study, not represent to population of expectant father in Thailand because of collection only in Ramathibodi Hospital.

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APPENDIX

APPENDIX A

Sample

Small samples are especially problematic in multiple regression and other multivariate procedures. Inadequate sample size can lead to Type II errors, and can also yield erratic and misleading regression coefficients. A better way to estimate sample size needs is to perform a power analysis (Polit, & Beck, 2003: 521 - 522). The number of subjects needed to reject the null hypothesis that R equal zero is estimated as a function of effects size, number of predictors, desired power, and the significance criterion. For multiple regression, the estimated population effects size is:

$$\gamma = \frac{R^2}{1 - R^2}$$

Researchers must either predict the value of R^2 on the basis of earlier research, or use the convention that the effect size will be small ($R^2 = .02$), moderate ($R^2 = .13$), or large ($R^2 = .30$). Next, the following formula is applied:

$$N = \frac{L}{\gamma} + k + 1$$

Where N = estimated number of subjects needed

L = tabled value for the desired α and power

k = number of predictor

γ = estimated effect size

To estimate the needed sample size for this study, guidelines suggested by Polit, & Beck (2003: 521 - 522) were used. This study to predict expectant father's grief response to perinatal loss using five predictor variables. Given estimate a moderate effect size ($R^2 = .13$), and want to achieve a power of .80 and $\alpha = .05$. With $R^2 = .13$, the estimated

population effect size (γ) is .149 (.13 ÷. 87). From table 21-3, that the value of L = 12.83. Thus:

$$N = \frac{12.83}{.149} + 5 + 1 = 92.1$$

As a result, 100 subjects were enrolled in this study.

APPENDIX B
LIST OF EXPERTS

List of experts who validated the instrument (perinatal grief scale) of this study is as follows:

1. Assistant Professor Dr. Chantima Khanobdee
   Department of Obstetric – Gynecology Nursing. Faculty of Medicine, Ramathibodi Hospital.
2. Assistant Professor Puangnoi Sakornrattanagul
   Department of Obstetric – Gynecology Nursing. Faculty of Medicine, Ramathibodi Hospital.
3. Lecturer Gahnyarak Nguycharoen
   Department of Obstetric – Gynecology Nursing. Faculty of Nursing, Mahidol University.
4. Lecturer Dr. Sopin Sangon
   Department of Psychiatric Nursing. Faculty of Medicine, Ramathibodi Hospital.
5. Associate Professor Phuangphen Jiumpuntarach
   Department of Psychiatric Nursing. Faculty of Nursing, Mahidol University.
6. Associate Professor Dr. Chautchawal Silpakit
   Department of Psychiatry. Faculty of Medicine, Ramathibodi Hospital.
7. Assistant Professor Nongpa-nga Suwattanand
   Department of Foreign Language. Faculty of Science, Mahidol University.

APPENDIX C

หนังสือยินยอมโดยได้รับการบอกกล่าวและเต็มใจ

(Informed Consent Form)

ชื่อโครงการ ความสัมพันธ์ระหว่างปัจจัยคัดสรรกับความเศร้าโศกของสามีที่ภรรยาสูญเสียทารกในครรภ์
ชื่อผู้วิจัย นางสาวสิรินภร ศุกรวรรณ
*ชื่อผู้เข้าร่วมการวิจัย……
อายุ……เลขที่เวชระเบียน……..

คำยินยอมของผู้เข้าร่วมการวิจัย

ข้าพเจ้า นาย/นาง/นางสาว……ได้ทราบรายละเอียดของโครงการวิจัยตลอดจนประโยชน์ และข้อเสี่ยงที่จะเกิดขึ้นต่อข้าพเจ้าจากผู้วิจัยแล้วอย่างชัดเจน ไม่มีสิ่งใดปิดบังซ่อนเร้นและยินยอมให้ทำการวิจัยในโครงการที่มีชื่อข้างต้น และข้าพเจ้ารู้ว่าถ้ามีปัญหาหรือข้อสงสัยเกิดขึ้นข้าพเจ้าสามารถสอบถามผู้วิจัยได้ และข้าพเจ้าสามารถไม่เข้าร่วมโครงการวิจัยนี้เมื่อใดก็ได้ โดยไม่มีผลกระทบต่อตัวข้าพเจ้า นอกจากนี้ผู้วิจัยจะเก็บข้อมูลเฉพาะเกี่ยวกับตัวข้าพเจ้าเป็นความลับและจะเปิดเผยได้เฉพาะในรูปที่เป็นสรุปผลการวิจัย การเปิดเผยข้อมูลเกี่ยวกับตัวข้าพเจ้าต่อหน่วยงานต่างๆที่เกี่ยวข้อง กระทำได้เฉพาะกรณีจำเป็นด้วยเหตุผลทางวิชาการเท่านั้น

ลงชื่อ……(ผู้เข้าร่วมการวิจัย)

……..(พยาน)

……..(พยาน)

วันที่ ……

คำอธิบายของแพทย์หรือผู้วิจัย

ข้าพเจ้าได้อธิบายรายละเอียดของโครงการ ตลอดจนประโยชน์ของการวิจัย รวมทั้งข้อเสี่ยงที่อาจจะเกิดขึ้นแก่ผู้เข้าร่วมการวิจัยทราบแล้วอย่างชัดเจนโดยไม่มีสิ่งใดปิดบังซ่อนเร้น

ลงชื่อ……(แพทย์หรือผู้วิจัย)

วันที่……

หมายเหตุ : กรณีผู้เข้าร่วมการวิจัยไม่สามารถอ่านหนังสือได้ ให้ผู้วิจัยอ่านข้อความในใบยินยอมฯนี้ให้แก่ผู้เข้าร่วมการวิจัยฟังจนเข้าใจดีแล้ว และให้ผู้เข้าร่วมการวิจัยลงนามหรือพิมพ์ลายนิ้วหัวแม่มือรับทราบในการให้ความยินยอมดังกล่าวข้างต้นไว้ด้วย

* ผู้เข้าร่วมการวิจัย หมายถึง ผู้ยินยอมตนให้ทำวิจัย

APPENDIX D

ใบยินยอมและการพิทักษ์สิทธิ์ของผู้เข้าร่วมวิจัย

ดิฉัน นางสาวสิรินภร ศุกรวรรณ นักศึกษาหลักสูตรปริญญาโท สาขาวิชาการพยาบาลมารดาและทารกแรกเกิด คณะแพทยศาสตร โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล กำลังทำวิจัยเรื่อง ความสัมพันธ์ระหว่างปัจจัยคัดสรรกับความเศร้าโศกของสามีที่ภรรยาสูญเสียทารกในครรภ์ เพื่อนำมาใช้เป็นแนวทางในการส่งเสริมให้ครอบครัวที่เผชิญกับการสูญเสียสามารถปรับตัวต่อความเศร้าโศกได้อย่างเหมาะสม

ด้วยเหตุดังกล่าวท่านจึงเป็นบุคคลที่สำคัญยิ่ง เพราะเป็นตัวแทนของบิดามารดาที่มีข้อมูลเกี่ยวกับการสูญเสียบุตรตั้งแต่ในระยะตั้งครรภ์ และข้อมูลที่ท่านได้ให้จะเป็นประโยชน์ต่อการศึกษาครั้งนี้ ดังนั้นดิฉันจึงใคร่ขอความร่วมมือจากท่านในการตอบแบบสอบถาม ซึ่งประกอบด้วย 5 ส่วน ได้แก่ ข้อมูลส่วนบุคคล ความเศร้าโศกของสามีที่ภรรยาต้องสูญเสียทารกในครรภ์ สัมพันธภาพระหว่างคู่สมรส ความผูกพันระหว่างบิดากับทารกในครรภ์ และวิธีการเผชิญปัญหา โดยใช้เวลาตอบทั้งหมดประมาณ 30-45 นาที ไม่มีคำตอบใดถูกหรือผิดและไม่มีผลกระทบใด ๆ ต่อท่าน ข้อมูลที่ได้รับจะถูกเก็บไว้เป็นความลับโดยไม่มีการเปิดเผยชื่อให้ผู้อื่นทราบ ผู้วิจัยจะนำข้อมูลไปวิเคราะห์เป็นภาพรวมเพื่อใช้ประโยชน์ในการวิจัยและการพยาบาลเท่านั้น

การตัดสินใจเข้าร่วมการวิจัยครั้งนี้จะเป็นไปตามสมัครใจของท่าน และไม่ว่าท่านจะเข้าร่วมการวิจัยหรือไม่ก็ตาม จะไม่มีผลกระทบใด ๆ ทั้งต่อตัวท่านและบุคคลที่เกี่ยวข้อง และแม้ท่านจะยินยอมเข้าร่วมการวิจัยแล้ว ท่านมีสิทธิ์ที่จะยกเลิกการเข้าร่วมการวิจัยได้ตลอดเวลาตามที่ท่านต้องการโดยไม่มีข้อแม้ใด ๆ

ดิฉันขอขอบพระคุณท่านที่ได้เสียสละเวลาให้ความร่วมมือ ในการตอบแบบสอบถามครั้งนี้

สิรินภร ศุกรวรรณ

ผู้วิจัย

สำหรับผู้เข้าร่วมวิจัย

ข้าพเจ้าได้อ่านหรือได้รับคำชี้แจงตามรายละเอียดดังกล่าวข้างต้นอย่างครบถ้วน มีความเข้าใจเป็นอย่างดี และยินดีที่จะเข้าร่วมการวิจัยในครั้งนี้

……..…

(……..)

……/……/……..

APPENDIX E

เครื่องมือที่ใช้ในการวิจัยสำหรับสามีที่ภรรยาสูญเสียทารกในครรภ์

ส่วนที่ 1 แบบสอบถามข้อมูลส่วนบุคคลของสามีที่ภรรยาต้องสูญเสียทารกในครรภ์

<u>คำชี้แจง</u>: โปรดเติมข้อความลงในช่องว่างหรือใส่เครื่องหมาย √ ลงใน () หน้าข้อความที่ตรงกับความเป็นจริงที่เกี่ยวกับตัวท่าน

1. อายุ ……..ปี
2. ระดับการศึกษาสูงสุด
   [1] ไม่ได้เรียน
   [2] ประถมศึกษา
   [3] มัธยมศึกษา/ ปวช.
   [4] อนุปริญญา/ ปวส.
   [5] ปริญญาตรีหรือสูงกว่า
   [6] อื่นๆ
   รวมจำนวนปีที่ใช้ในการศึกษา .....ปี
3. ศาสนา [1] พุทธ [2] คริสต์ [3] อิสลาม
4. สถานภาพสมรส
   [1] คู่ อยู่ร่วมกันกับภรรยา
   [2] คู่ ไม่ได้อยู่ร่วมกันกับภรรยา
   [3] อื่น ๆ โปรดระบุ……
5. อาชีพ
   [1] ไม่ได้ทำงาน
   [2] รับจ้าง
   [3] ค้าขาย
   [4] รับราชการ
   [5] อื่นๆ โปรดระบุ…… …
6. รายได้เฉลี่ยของครอบครัวต่อเดือน…….
7. ภูมิลำเนา…….

8. ท่านเข้าเยี่ยมภรรยาก่อนถูกสัมภาษณ์ครั้งนี้

[1] ใช่ [2] ไม่ใช่

9. การตั้งครรภ์ครั้งนี้เป็นครรภ์ที่……..

10. ท่านทราบว่าภรรยาของท่านตั้งครรภ์ก่อนที่จะสูญเสียทารกในครรภ์

[1] ใช่ [2] ไม่ใช่

11. ทารกในครรภ์ดิ้นแล้วก่อนที่จะเกิดการสูญเสียทารกในครรภ์

[1] ใช่ [2] ไม่ใช่

12. ภรรยาของท่านได้รับการขูดมดลูกจากการสูญเสียทารกในครรภ์ครั้งนี้

[1] ใช่ [2] ไม่ใช่

13. ท่านได้เห็นทารกที่สูญเสียหรือเห็นเนื้อเยื่อของทารกที่สูญเสียออกมา

[1] ใช่ [2] ไม่ใช่

14. จำนวนบุตรที่เคยสูญเสียก่อนการสูญเสียครั้งนี้ โดย

การแท้งเอง …….. คน

การทำแท้ง ……... คน

ตายในครรภ์หรือขณะคลอด …… คน

ตายหลังจากคลอด …… คน

อื่น ๆ (ระบุ) …….. คน

15. จำนวนบุตรที่มีชีวิตอยู่ ……. คน

16. ท่านคิดว่าท่านมีบุตรเพียงพอแล้ว

[1] ใช่ [2] ไม่ใช่

17. ท่านตั้งใจมีลูกครั้งนี้

[1] ตั้งใจ [2] ไม่ตั้งใจ

กรณีที่ตอบว่า ไม่ตั้งใจ เมื่อท่านทราบว่าตั้งครรภ์ครั้งนี้ ท่านต้องการบุตรคนนี้

[1] มาก [2] ปานกลาง [3] น้อย [4] ไม่ต้องการ

18. ท่านเคยไปปรึกษาแพทย์ เนื่องจากมีลูกยาก

[1] เคย [2] ไม่เคย

<u>สำหรับผู้วิจัย</u>

1. จากการวินิจฉัยของแพทย์ ครรภ์นี้สูญเสียเมื่ออายุครรภ์ประมาณ ……สัปดาห์
2. ชนิดของการสูญเสียบุตรครั้งนี้จากการวินิจฉัยของแพทย์……

APPENDIX F

ส่วนที่ 2 แบบวัดความเศร้าโศกของสามีที่ภรรยาสูญเสียทารกในครรภ์ (perinatal grief scale)

คำชี้แจง ข้อความข้างล่างต่อไปนี้เป็นข้อความที่บรรยายถึงความรู้สึก ความคิด อาการทางกายและพฤติกรรมของท่านในระยะหลังจากที่ภรรยาสูญเสียทารกในครรภ์ ข้อความต่อไปนี้ไม่มีคำตอบใดที่ถูกหรือผิด โปรดอ่านข้อความในแต่ละข้อและทำเครื่องหมาย ✓ ไว้ในช่องที่อยู่ด้านขวาของข้อความ ซึ่งท่านได้พิจารณาแล้วว่าตรงกับความเป็นจริงของท่านมากที่สุดในขณะนี้เพียงคำตอบเดียวและกรุณาตอบให้ครบทุกข้อ แต่ละข้อมีคำตอบให้เลือก 5 ระดับ มีความหมายดังนี้

เห็นด้วยอย่างยิ่ง หมายถึง ข้อความนั้นตรงกับความรู้สึก ความคิดหรือพฤติกรรมของท่านมากที่สุด

เห็นด้วย หมายถึง ข้อความนั้นตรงกับความรู้สึก ความคิดหรือพฤติกรรมของท่านมาก

ไม่แน่ใจ หมายถึง ข้อความนั้นตรงกับความรู้สึก ความคิดหรือพฤติกรรมของท่านเพียงครึ่งเดียว

ไม่เห็นด้วย หมายถึง ข้อความนั้นตรงกับความรู้สึก ความคิดหรือพฤติกรรมของท่านน้อย

ไม่เห็นด้วยอย่างยิ่ง หมายถึง ข้อความนั้นตรงกับความรู้สึก ความคิดหรือพฤติกรรมของท่านน้อยที่สุด หรือไม่ตรงกับความรู้สึก ความคิดของท่านเลย

หลังจากที่ท่านทราบว่าภรรยาของท่านสูญเสียทารกครรภ์ ท่านมีความรู้สึกต่อไปนี้ อย่างไรบ้าง

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
1. ฉันรู้สึกซึมเศร้า					
2. ฉันเข้ากับคนบางคนได้ยาก					
3. ฉันรู้สึกอ้างว้าง โดดเดี่ยว อยู่ภายในใจ					
4. ……..					
5. ……..					
6. ……..					
7. ……..					
8. ……..					
9. ……...					

ข้อความ	เห็นด้วยอย่างยิ่ง	เห็นด้วย	ไม่แน่ใจ	ไม่เห็นด้วย	ไม่เห็นด้วยอย่างยิ่ง
10. …….					
11. ……					
12. ……					
13. …….					
14. ……..……					
15. ……..…					
16. ……..……					
17. …..……...					
18. ……..……					
19. ……..……					
20. …….					
21. ……..……					
22. ……..……					
23. ……..……					
24. …….					
25. ……..……					
26. ……..……					
27. ……..……					
28. ……..……					
29. …….					
30. …….					
31. …….					
32. …….					
33. ฉันรู้สึกดีที่มีชีวิตอยู่					

APPENDIX G

ส่วนที่ 3 แบบสอบถามสัมพันธภาพระหว่างคู่สมรส (dyadic adjustment scale)

คำชี้แจง ข้อความข้างล่างต่อไปนี้เป็นข้อความที่แสดงถึงความสัมพันธ์ระหว่างท่านและภรรยา ข้อความต่อไปนี้ไม่มีคำตอบใดที่ถูกหรือผิด โปรดอ่านข้อความในแต่ละข้อและทำเครื่องหมาย ✓ ไว้ในช่องที่อยู่ด้านขวาของข้อความ ซึ่งท่านได้พิจารณาแล้วว่าตรงกับความเป็นจริงขอองท่านมากที่สุดในขณะนี้เพียงคำตอบเดียวและกรุณาตอบให้ครบทุกข้อ แต่ละข้อมีคำตอบให้เลือก 5 ระดับ

ท่านและภรรยามีความคิดเห็น/ความรู้สึกสอดคล้องตรงกันในเรื่องต่อไปนี้อย่างไร

แตกต่างกันสิ้นเชิง หมายถึง ข้อความนั้นท่านและภรรยามีความรู้สึกหรือความคิดเห็นแตกต่างกันโดยสิ้นเชิง

เห็นพ้องกันเล็กน้อย หมายถึง ข้อความนั้นท่านและภรรยามีความรู้สึกหรือความคิดเห็นสอดคล้องกันเล็กน้อย

เห็นพ้องกันปานกลาง หมายถึง ข้อความนั้นท่านและภรรยามีความรู้สึกหรือความคิดเห็นสอดคล้องกันปานกลาง

เห็นพ้องกันมาก หมายถึง ข้อความนั้นท่านและภรรยามีความรู้สึกหรือความคิดเห็นสอดคล้องกันมาก

ตรงกันทั้งหมด หมายถึง ข้อความนั้นท่านและภรรยามีความรู้สึกหรือความคิดเห็นตรงกันทั้งหมด

ข้อความ	ความรู้สึก/ความคิดเห็นของท่านและภรรยา				
	ตรงกันทั้งหมด	เห็นพ้องกันมาก	เห็นพ้องกันปานกลาง	เห็นพ้องกันน้อย	แตกต่างกันสิ้นเชิง
1. การจัดการเรื่องค่าใช้จ่ายภายในครอบครัว					
2. การใช้เวลาในการพักผ่อนหย่อนใจร่วมกัน					
3. ความเชื่อและการปฏิบัติกิจกรรมเกี่ยวกับศาสนา					
4.					
5.					
6.					
7.					
8.					
9.					

ข้อความ	ความรู้สึก/ความคิดเห็นของท่านและภรรยา				
	ตรงกันทั้งหมด	เห็นพ้องกันมาก	เห็นพ้องกันปานกลาง	เห็นพ้องกันน้อย	แตกต่างกันสิ้นเชิง
10. ……					
11. ……					
12. ……					
13. ……					

เหตุการณ์หรือความรู้สึกต่อไปนี้เกิดขึ้นกับท่านและภรรยาบ่อยครั้งเพียงใด

ไม่เคยเลย หมายถึง เมื่อเห็นว่าข้อความนั้นเป็นความรู้สึกหรือเหคุการณ์ที่ไม่เคยเกิดขึ้นกับท่านและภรรยาเลย

เล็กน้อย หมายถึง เมื่อเห็นว่าข้อความนั้นเป็นความรู้สึกหรือเหคุการณ์ที่เกิดขึ้นกับท่านและภรรยาเพียงเล็กน้อยหรือนาน ๆ ครั้ง

ปานกลาง หมายถึง เมื่อเห็นว่าข้อความนั้นเป็นความรู้สึกหรือเหคุการณ์ที่เกิดขึ้นกับท่านและภรรยาปานกลางหรือพอสมควร

บ่อย/เกือบตลอดเวลา หมายถึง เมื่อเห็นว่าข้อความนั้นเป็นความรู้สึกหรือเหคุการณ์ที่เกิดขึ้นกับท่านและภรรยาบ่อยหรือเกือบตลอดเวลา

บ่อยมาก/ตลอดเวลา หมายถึง เมื่อเห็นว่าข้อความนั้นเป็นความรู้สึกหรือเหคุการณ์ที่เกิดขึ้นกับท่านและภรรยาบ่อยมากหรือตลอดเวลา

ข้อความ	บ่อยมากหรือตลอดเวลา	บ่อยหรือเกือบตลอดเวลา	ปานกลาง	เล็กน้อย	ไม่เคยเลย
14. ท่านเคยคิดที่จะหย่าหรือแยกทางกับภรรยา					
15. ……					
16. ……					
17. ……					
18. ……					
19. ……					
20. ……					
21. ……					
22. ……					

ข้อความ	บ่อยมากหรือตลอดเวลา	บ่อยหรือเกือบตลอดเวลา	ปานกลาง	เล็กน้อย	ไม่เคยเลย
23. ……					
24. ……					
25. ……					
26. ……					

27. ชีวิตสมรสของท่านมีความสุขมากน้อย เพียงใด

โปรดวงรอบตัวเลขที่ท่านเห็นว่าเป็นตัวแทนความสุขในชีวิตสมรสของท่านได้มากที่สุด

0	1	2	3	4
ไม่มีความสุขเลย	มีความสุขเล็กน้อย	มีความสุขปานกลาง	มีความสุขค่อนข้างมาก	มีความสุขมากที่สุด

APPENDIX H

ส่วนที่ 4 แบบสอบถามความผูกพันระหว่างบิดากับทารกในครรภ์ (paternal – fetal attachment)

คำชี้แจง ข้อความต่อไปนี้ เป็นเรื่องเกี่ยวกับความคิด ความรู้สึก และพฤติกรรมของท่านต่อบุตรในครรภ์ กรุณาอ่านข้อความทีละข้อ และทำเครื่องหมาย ✓ ในช่องคำตอบที่ท่านเห็นว่าตรงกับความคิดและพฤติกรรมของท่านมากที่สุด

ข้อความ	ความคิด หรือการกระทำที่เกิดขึ้น				
	ไม่เคย	นานๆครั้ง	เป็นครั้งคราว	บ่อยครั้ง	เป็นประจำ
1. ฉันพูดคุยกับลูกในท้อง					
2. ฉันรู้สึกว่าการที่ภรรยาตั้งครรภ์ทำให้ฉันลำบาก แต่ฉันคิดว่าเป็นสิ่งที่มีค่าสำหรับฉัน					
3. เมื่อภรรยาบอกว่าลูกในท้องกำลังดิ้น ฉันเฝ้ามองอย่างมีความสุข					
4. ……...					
5. ……...					
6. ……...					
7. ……...					
8. ……...					
9. ……...					
10. ……					
11. ……					
12. ……					
13. ……					
14. ……					
15. ……					
16. ……					
17. ……					
18. ……					
19. ……					
20. ……					

ข้อความ	ความคิด หรือการกระทำที่เกิดขึ้น				
	ไม่เคย	นานๆครั้ง	เป็นครั้งคราว	บ่อยครั้ง	เป็นประจำ
21. ……					
22. ……..					
23. ฉันช่วยให้ภรรยานั่งหรือนอนได้สบายขึ้น ในเวลาที่ลูกในท้องดิ้นมาก ๆ เพื่อให้ลูกดิ้นหรือเคลื่อนไหวได้สะดวกขึ้น					
24. ฉันรู้สึกว่าลูกเป็นชีวิตหนึ่งที่สำคัญต่อชีวิตของฉัน					

APPENDIX I

ส่วนที่ 5 แบบประเมินวิธีการเผชิญปัญหา (jalowiec coping scale)

คำชี้แจง ต่อไปนี้เป็นวิธีการต่าง ๆ ที่บุคคลใช้เมื่อเผชิญกับภาวะเครียดหรือประสบปัญหาต่าง ๆ ให้ท่านพิจารณาว่าได้เกิดขึ้นกับท่านมากน้อยเพียงใด แล้วเลือกคำตอบ โดยทำเครื่องหมาย ✓ ลงในช่องที่ตรงกับความเป็นจริงหรือความรู้สึกที่เกิดขึ้นกับท่านมากที่สุดหลังจากการที่ภรรยาต้องสูญเสียทารกในครรภ์ได้เกิดขึ้น แต่ละข้อมีคำตอบให้เลือกดังนี้

ไม่เคย หมายถึง ข้อความนั้นไม่ตรงกับความเป็นจริงของท่านเลยหรือท่านไม่เคยใช้วิธีนั้นในการจัดการกับปัญหา (0%)

นาน ๆ ครั้ง หมายถึง ข้อความนั้นตรงกับความเป็นจริงของท่านบ้างเล็กน้อยหรือท่านเคยใช้วิธีนั้นในการจัดการกับปัญหา (25%)

เป็นบางครั้ง หมายถึง ข้อความนั้นตรงกับความเป็นจริงของท่านเพียงครึ่งหนึ่งหรือท่านเคยใช้วิธีนั้นนาน ๆ ครั้ง (50%)

บ่อย ๆ หมายถึง ข้อความนั้นตรงกับความเป็นจริงของท่านเป็นส่วนมากหรือท่านเคยใช้วิธีนั้นบ่อย ๆ (75%)

เกือบทุกครั้ง หมายถึง ข้อความนั้นตรงกับความเป็นจริงของท่านมากที่สุดหรือท่านเคยใช้วิธีนั้นเกือบทุกครั้ง (100%)

วิธีเผชิญปัญหา	ไม่เคย	นาน ๆ ครั้ง	เป็นบางครั้ง	บ่อย ๆ	เกือบทุกครั้ง
1. กังวลใจ					
2. ออกกำลังกายหรือทำกิจกรรมต่าง ๆ					
3. หวังว่าสิ่งต่าง ๆ จะดีขึ้น					
4. ……..					
5. ……..					
6. ……..					
7. ……..					
8. ……..					
9. ……..					
10. ……..					
11. ……..					
12. ……..					
13. ……..					

วิธีเผชิญปัญหา	ไม่เคย	นาน ๆ ครั้ง	เป็นบางครั้ง	บ่อย ๆ	เกือบทุกครั้ง
14. ……..					
15. ……..					
16. ……..					
17. ……..					
18. ……..					
19. ……..					
20. ……..					
21. ……..					
22. ……..					
23. ……..					
24. ……..					
25. ……..					
26. ……..					
27. ……..					
28. ……..					
29. ……..					
30. ……..					
31. ……..					
32. ……..					
33. ……..					
34. ……..					
35. ……..					
36. ยอมรับสถานการณ์แม้ไม่เป็นไปตามคาดหวัง					

APPENDIX J
PERMISSION LETTERS FOR PROTECTION OF HUMAN RIGHTS

คณะแพทยศาสตร์ โรงพยาบาลรามาธิบดี มหาวิทยาลัยมหิดล
ถนนพระราม 6 กทม. 10400
โทร. (662) 245-5704, 201-1296 โทรสาร (662) 246-2123

Faculty of Medicine, Ramathibodi Hospital, Mahidol University
Rama VI Road, Bangkok 10400, Thailand
Tel. (662) 245-5704, 201-1296 Fax (662) 246-2123

Documentary Proof of Ethical Clearance Committee on Human Rights Related to Researches Involving Human Subjects Faculty of Medicine, Ramathibodi Hospital, Mahidol University

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No.0169 /2004

Title of Project	*The Relationship between Selected Factor and Expectant Father's Grief Response to Perinatal Loss*
Protocol Number	*ID 06-47-15*
Principal Investigator	Miss. Sirinporn Sukarawan
Official Address	Boromrajajonani College of Nursing,Yala Amphor Maung Yala Province

The aforementioned project has been reviewed and approved by Committee on Human Rights Related to Researches Involving Human Subjects, based on the Declaration of Helsinki.

Signature of Chairman
Committee on Human Rights Related to
Researches Involving Human Subjects ..... Prof. Krisada Ratana-olarn, M.D., FRCST, FICS.

Signature of Dean .....
Prof. Prakit Vathesatogkit, M.D., ABIM.,FRCP.

Date of Approval *June 16, 2004*

APPENDIX K

Table IX. Range, Mean, Standard Deviation and Percentage of Mean of Perinatal Grief Scale Classified by Subscale and All Items (N = 100)

Perinatal grief scale	Possible range	Actual range	Mean	S.D.	% of mean
Active grief	**11 – 55**	**13 - 53**	**35.13**	**7.602**	**63.87**
A6. I am grieving for the baby.	1 – 5	1 – 5	4.11	1.053	82.2
A1. I feel depressed.	1 - 5	1 - 5	4.05	0.936	81
A12. It is painful to recall memories of the loss.	1 – 5	1 – 5	3.90	0.980	78
A10. I very much miss the baby.	1 - 5	1 - 5	3.67	1.006	73.4
A3. I feel empty inside.	1 – 5	1 – 5	3.35	1.077	67
A5. I feel a need to talk about the baby.	1 – 5	1 – 5	2.96	1.279	59.2
A14. I cry when I think about him/her.	1 – 5	1 – 5	2.92	1.098	58.4
A13. I get upset when I think about the baby.	1 – 5	1 – 5	2.77	1.196	55.4
A19. Time passes so slowly since the baby died.	1 – 5	1 – 5	2.61	1.100	52.2
A7. I am frightened.	1 – 5	1 – 5	2.56	1.183	51.2
A27. I feel so lonely since he/she died.	1 - 5	1 - 5	2.23	1.024	44.6
Difficulty coping	**11 – 55**	**11 - 39**	**23.75**	**6.374**	**43.18**
C2. I find it hard to get along with certain people.	1 - 5	1 – 5	2.83	1.207	56.6
C25. Sometimes I feel like I need a professional counselor to help me get my life back together again.	1 – 5	1 – 5	2.49	1.330	49.8
C21. I have let people down since the baby died.	1 – 5	1 – 5	2.46	1.029	49.2
C4. I can't keep up with my normal activities.	1 – 5	1 – 5	2.41	1.074	48.2
C11. I feel I have adjusted well to the loss.+	1 – 5	1 – 5	2.40	0.899	48
C28. I feel somewhat apart and remote, even among friends.	1 – 5	1 – 5	2.09	0.911	41.8
C30. I find it difficult to make decisions since the baby died.	1 – 5	1 – 5	2.03	0.989	40.6
C26. I feel as though I'm just existing and not really living since he/she died.	1 – 5	1 – 5	1.95	0.968	39

Table IX. Range, Mean, Standard Deviation and Percentage of Mean of Perinatal Grief Scale Classified by Subscale and All Items (N = 100) (continued)

Perinatal grief scale	Possible range	Actual range	Mean	S.D.	% of mean
C24. I get cross at my friends and relatives more than I should.	1 - 5	1 – 4	1.65	0.770	33
C8. I have considered suicide since the loss.	1 – 5	1 – 3	1.36	0.595	27.2
C33. It feels great to be alive.+	1 - 5	1 – 5	2.08	1.051	41.6
Despair	**11 - 55**	**11 - 40**	**23.45**	**6.920**	**42.64**
D16. I feel physically ill when I think about the baby.	1 – 5	1 – 5	3.01	1.141	60.2
D15. I feel guilty when I think about the baby.	1 – 5	1 – 5	2.92	1.152	58.4
D18. I try to laugh, but nothing seems funny anymore.	1 – 5	1 – 5	2.40	1.035	48
D23. I blame myself for the baby's death.	1 – 5	1 – 5	2.32	1.171	46.4
D20. The best part of me died with the baby.	1 - 5	1 - 5	2.11	1.109	42.2
D31. I worry about what my future will be like.	1 – 5	1 – 5	2.11	1.053	42.2
D32. Being a bereaved parent means being a "second-class citizen"	1 - 5	1 - 5	1.93	0.946	38.6
D17. I feel unprotected in a dangerous world since he/she died.	1 – 5	1 – 5	1.84	1.002	36.8
D22. I feel worthless since he/she died.	1 – 5	1 – 5	1.79	0.868	35.8
D29. It's safer not to love.	1 – 5	1 – 5	1.64	0.882	32.8
D9. I take medicine for my nerve.	1 - 5	1 - 4	1.38	0.565	27.6
Overall	**33 - 165**	**35 - 125**	**82.33**	**18.543**	**49.90**

Table X. Range, Mean, Standard Deviation and Percentage of Mean of Dyadic Adjustment Scale Classified by Subscale and All Items (N = 100)

Dyadic adjustment scale	Possible range	Actual range	Mean	S.D.	% of mean
Dyadic consensus	**12 - 60**	**28 – 60**	**47.20**	**7.636**	**78.67**
7. Ways of dealing with parents or in-laws	1 – 5	3 – 5	4.26	0.733	85.2
6. Matters of recreation	1 – 5	1 – 5	4.15	0.857	83
8. Aims, goals, and things believed important	1 – 5	1 – 5	4.14	0.752	82.8
10. Making major decisions	1 – 5	1 – 5	4.11	0.898	82.2
1. Handling family finance	1 – 5	2 – 5	4.01	0.810	80.2
9. Amount of time spent together	1 – 5	1 – 5	4.00	0.899	80
3. Religious matters	1 – 5	1 – 5	3.93	0.998	78.6
2. Conventionality (correct or proper behavior)	1 – 5	1 – 5	3.88	0.967	77.6
11. Household tasks	1 – 5	1 – 5	3.78	0.927	75.6
13. Career decision	1 – 5	1 – 5	3.77	0.920	75.4
12. Leisure time interests and activities	1 – 5	1 – 5	3.59	0.889	71.8
4. Friends	1 – 5	1 – 5	3.58	0.997	71.6
Dyadic satisfaction	**8 - 40**	**21 – 40**	**31.85**	**4.598**	**79.63**
18. Do you ever regret that you married? (or lived together)	1 – 5	2 – 5	4.67	0.652	93.4
14. How often do you discuss or have you considered divorce, separation, or terminating you relationship?	1 – 5	3 – 5	4.66	0.607	93.2
15. How often do you or your mate leave the house after a fight?	1 – 5	2 – 5	4.36	0.732	87.2
27. happiness in your relationship	1 – 5	2 – 5	4.09	0.712	81.8
19. How often do you and your partner quarrel?	1 – 5	1 – 5	3.89	0.650	77.8
16. In general, how often do you think that things between you and your partner are going well?	1 – 5	1 – 5	3.62	1.052	72.4
20. Do you and your mate engage in outside interests together?	1 – 5	1 – 5	3.52	1.087	70.4
17. Do you confide in your mate?	1 – 5	1 – 5	3.04	1.740	60.8
Dyadic cohesion	**4 – 20**	**8 – 20**	**14.87**	**2.939**	**74.35**
22. Laugh together	1 – 5	2 – 5	3.98	0.841	79.6
21. Having a stimulating exchange of ideas	1 – 5	1 – 5	3.85	0.914	77

Table X. Range, Mean, Standard Deviation and Percentage of Mean of Dyadic Adjustment Scale Classified by Subscale and All Items (N = 100) (continued)

Dyadic adjustment scale	Possible range	Actual range	Mean	S.D.	% of mean
24. Work together on a project	1 – 5	1 – 5	3.81	0.940	76.2
23. Calmly discuss something	1 – 5	1 – 5	3.23	0962	64.6
Affectional expression	**3 – 15**	**6 – 15**	**11.30**	**1.931**	**75.33**
25. Demonstrations of affection How often do you and your mate "get on each other's nerves"?	1 – 5	2 – 5	3.93	0.902	78.6
5. Sex relations	1 – 5	1 – 5	3.87	0.787	77.4
26. Not showing love.	1 – 5	1 – 5	3.50	1.168	70
Overall	**27 – 135**	**69 – 133**	**105.22**	**14.83**	**77.94**

Table XI. Range, Mean, Standard Deviation and Percentage of Mean of Paternal – Fetal Attachment Classified by Subscale and All Items (N = 100)

Paternal – fetal attachment	Possible range	Actual range	Mean	S.D.	% of mean
Differentiation of self from the fetus	**4 – 20**	**5 – 20**	**15.45**	**3.664**	**77.25**
24. I feel that the baby is part in my life	1 – 5	2 – 5	4.62	0.708	92.4
5. I'm really looking forward to seeing what the baby looks like.	1 – 5	1 – 5	3.88	1.140	77.6
10. I have decided on a name for a girl baby.	1 – 5	1 – 5	3.56	1.559	71.2
3. I enjoy watching my wife's tummy jiggle as the baby kicks inside.	1 – 5	1 – 5	3.39	1.556	67.8
Interaction with the fetus	**5 – 25**	**5 – 25**	**15.57**	**5.77**	**62.28**
23. I grasp my baby's foot through my wife's tummy to move it around.	1 – 5	1 – 5	3.48	1.554	69.6
7. I refer to the baby by a nickname.	1 – 5	1 – 5	3.11	1.614	62.2
1. I talk to my unborn baby.	1 – 5	1 – 5	3.09	1.319	61.8
20. I stroke my wife's tummy to quiet the baby when there is too much kicking.	1 – 5	1 – 5	2.95	1.623	59
17. I poke the baby to get him/her to poke back.	1 – 5	1 – 5	2.94	1.588	58.8
Attributing characteristics and intentions to the fetus	**6 – 30**	**6 – 30**	**18.08**	**6.403**	**60.27**
6. I wonder if the baby feels cramped in there.	1 – 5	1 – 5	3.73	1.254	74.6
14. I wonder if the baby thinks and feels "things" inside of my wife.	1 – 5	1 – 5	3.36	1.243	67.2
12. I wonder if the baby can hear inside of my wife.	1 – 5	1 – 5	3.19	1.433	63.8
16. It seems that the baby kicks and moves to tell my wife it's eating time.	1 – 5	1 – 5	3.06	1.607	61.2
9. I can almost guess what the baby's personality will be from the way she/he moves around.	1 – 5	1 – 5	2.53	1.460	50.6
20. I can tell when the baby has hiccoughs.	1 – 5	1 – 5	2.21	1.282	44.2
Giving of self	**5 – 25**	**11 - 25**	**19.66**	**3.06**	**78.64**
15. I encourage my partner to eat meat & vegetables to be sure my baby gets a good diet.	1 – 5	1 – 5	4.44	0.868	88.8

Table XI. Range, Mean, Standard Deviation and Percentage of Mean of Paternal – Fetal Attachment Classified by Subscale and All Items (N = 100) (continued)

Paternal – fetal attachment	Possible range	Actual range	Mean	S.D.	% of mean
22. I encourage my wife to give up doing certain things because I want to help my baby.	1 – 5	1 – 5	4.40	0.876	88
11. I do things to try to help my wife stay healthy that I would not do if she were not pregnant.	1 – 5	1 – 5	4.20	0.964	84
21. I feel my wife's body is ugly.	1 – 5	1 – 5	3.81	1.368	76.2
2. I feel all the trouble of being pregnant is worth it.	1 – 5	1 – 5	2.81	1.502	56.2
Role taking	**4 – 20**	**4 – 20**	**12.94**	**3.97**	**64.70**
18. I try to picture what the baby will look like.	1 – 5	1 – 5	4.07	1.200	81.4
8. I imagine myself taking care of the baby.	1 – 5	1 – 5	3.48	1.314	69.6
4. I picture myself feeding the baby.	1 – 5	1 – 5	3.04	1.385	60.8
13. I can hardly wait to hold the baby.	1 – 5	1 – 5	2.35	1.452	47
Overall	**24 – 120**	**32 – 119**	**81.70**	**19.35**	**68.08**

Table XII. Range, Mean, Standard Deviation and Percentage of Mean of Jalowiec Coping Scale Classified by Subscale and All Items (N = 100)

Coping strategies	Possible range	Actual range	Mean	S.D.	% of mean
Confrontive coping strategies	**13 – 65**	**26 - 60**	**47.78**	**6.749**	**73.51**
16. maintain control	1 – 5	2 – 5	4.28	0.683	85.6
17. seek purpose/ meaning	1 – 5	1 – 5	4.23	0.802	84.6
15. view problem objectively	1 – 5	2 – 5	4.21	0.715	84.2
32. handle problem piecemeal	1 – 5	1 – 5	4.13	0.812	82.6
5. consider different solution	1 – 5	1 – 5	4.12	0.924	82.4
29. try different solutions	1 – 5	1 – 5	3.91	1.036	78.2
28. information-seeking	1 – 5	1 – 5	3.85	1.058	77
31. use past experience	1 – 5	1 – 5	3.82	1.058	76.4
34. set goal	1 – 5	1 – 5	3.69	0.950	73.8
11. discuss problem	1 – 5	1 – 5	3.26	1.031	65.2
2. activity/exercise	1 – 5	1 – 5	3.06	0.839	61.2
22. try to change situation	1 – 5	1 – 5	2.94	1.254	58.8
27. get comfort/ help from others	1 – 5	1 – 5	2.28	1.092	45.6
Emotive coping strategies	**9 – 45**	**11 - 33**	**20.09**	**4.991**	**44.64**
9. daydream	1 – 5	1 – 5	3.02	1.073	60.4
1. worry	1 – 5	1 – 5	2.98	1.146	59.6
19. get nervous	1 – 5	1 – 5	2.53	0.969	50.6
12. pessimism	1 – 5	1 – 5	2.26	0.970	45.2
24. isolation	1 – 5	1 – 5	2.22	1.097	44.4
13. get mad/curse	1 – 5	1 – 4	2.10	0.980	42
6. eat/smoke	1 – 5	1 – 5	1.88	1.208	37.6
23. release tension on others	1 – 5	1 – 5	1.57	0.891	31.4
21. blame others	1 – 5	1 – 4	1.53	0.810	30.6
Palliative coping strategies	**14 – 70**	**31 - 55**	**40.95**	**5.070**	**58.5**
36. settle for next best thing	1 – 5	1 – 5	4.14	0.910	82.8
14. acceptance	1 – 5	2 – 5	4.06	0.862	81.2
3. optimism	1 – 5	1 – 5	3.83	0.965	76.6
35. don't worry	1 – 5	1 – 5	3.74	1.031	74.8
10. try anything	1 – 5	1 – 5	3.60	0.888	72
7. put problem aside	1 – 5	1 – 5	3.37	1.169	67.4
33. sleep	1 – 5	1 – 5	3.16	1.143	63.2
18. pray/trust god	1 – 5	1 – 5	2.70	1.068	54
20. situational withdrawal	1 – 5	1 – 5	2.31	1.061	46.2
26. let problem solve itself	1 – 5	1 – 5	2.24	1.173	44.8
4. humor	1 – 5	1 – 5	2.19	1.152	43.8
30. resignation/ it's fate	1 – 5	1 – 5	2.18	1.114	43.6
25. resignation/ it's hopeless	1 – 5	1 – 5	2.02	1.015	40.4

Table XII. Range, Mean, Standard Deviation and Percentage of Mean of Jalowiec Coping Scale Classified by Subscale and All Items (N = 100) (continued)

Coping strategies	Possible range	Actual range	Mean	S.D.	% of mean
8. let others solve problem	1 – 5	1 – 3	1.41	0.726	28.2
Overall	**36 - 180**	**82 – 141**	**108.82**	**11.566**	**60.46**

Table XIII. Descriptive Statistics of Ways of Coping strategies of the Samples (n = 100)

Ways of coping strategies	Percent
Confrontive	93
palliative	13

* Had more than one ways of coping strategies

APPENDIX M
TESTING ASSUMPTION OF MULTIPLE REGRESSION ANALYSIS

1. Normal distribution

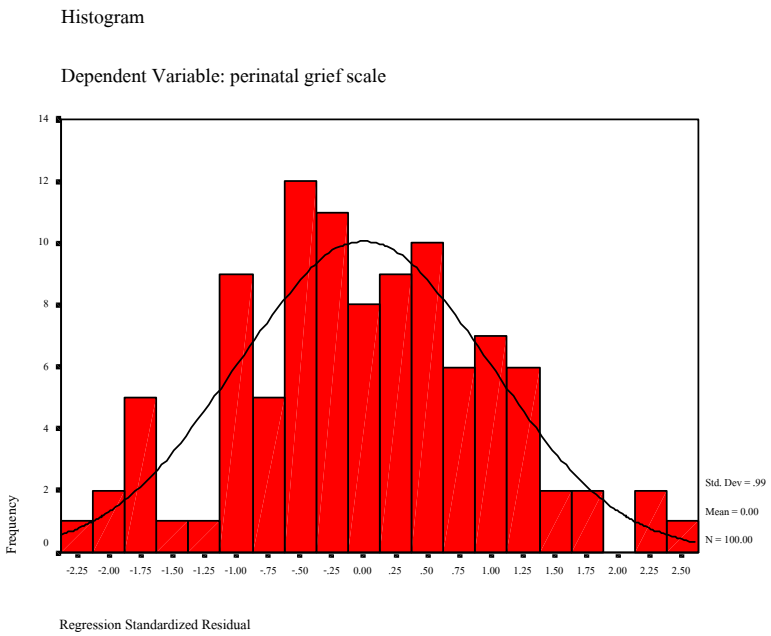

Figure 3 Histogram of residuals

2. Homoscedasticity

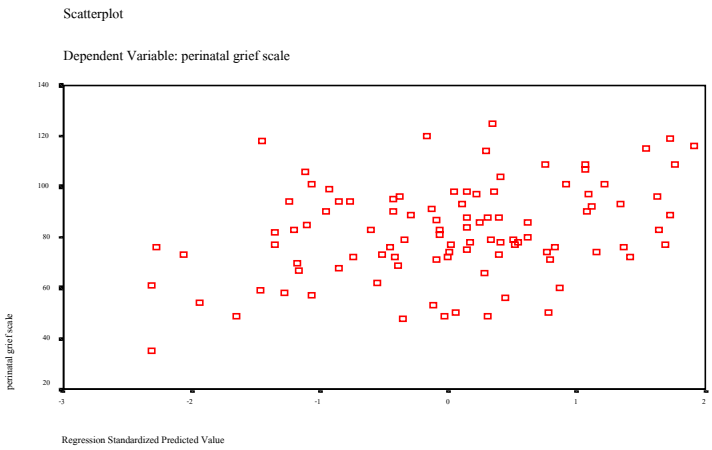

Figure 4 Scatter plot

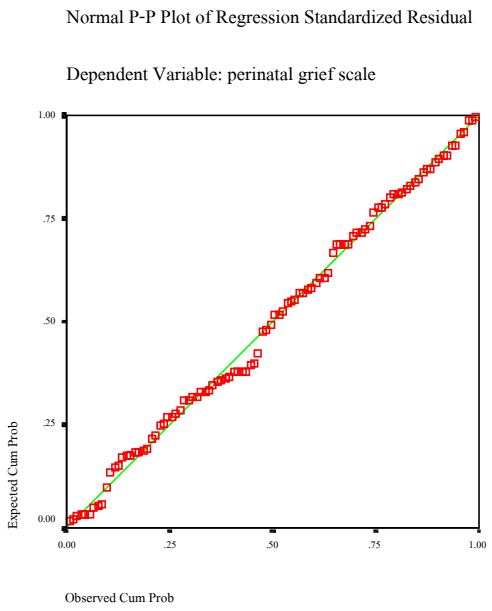

Figure 5 Normal P-P plot of regression standardized residual

3. Testing assumptions by muticollinearity

Table XIV. Model Summary(c)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.287(a)	.082	.073	17.852	.082	8.812	1	98	.004	
2	.351(b)	.123	.105	17.540	.041	4.523	1	97	.036	2.019

a Predictors: (Constant), paternal fetal attachment

b Predictors: (Constant), paternal fetal attachment, อายุ

c Dependent Variable: perinatal grief scal

Table XV. Unstandardized Coefficients, Standard error, Standardized Coefficients, t-value, and Collinearity Statistics of paternal fetal attachment, expectant father's age, and constant.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	59.839	7.784		7.687	.000	44.392	75.286		
	paternal fetal attachment	.275	.093	.287	2.968	.004	.091	.459	1.000	1.000
2	(Constant)	82.798	13.229		6.259	.000	56.541	109.054		
	paternal fetal attachment	.253	.092	.264	2.762	.007	.071	.435	.987	1.013
	Age	-.606	.285	-.203	-2.127	.036	-1.171	-.040	.987	1.013

a Dependent Variable: perinatal grief scale

BIOGRAPHY

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